WHEELER SHOP
Allahabad

LOGIC, VALUE AND REALITY

LOGIC, VALUE AND REALITY

An Inquiry into the Foundations of Logic

by

BIRENDRA KUMAR BHATTACHARYA,
M.A., D.Litt. (Cal.),
Premchand Roychand Scholar, Griffith Prizeman & Mouat Medallist;
Indian Administrative Service

with a Foreword by
Prof. S. RADHAKRISHNAN,
M.A., D.Litt., F.B.A., *Bharat Ratna*

UNIVERSITY OF CALCUTTA
1961

Rs. 10·00

FIRST PUBLISHED 1961

PRINTED IN INDIA
Published by Sri Sibendra Nath Kanjilal B.Sc., Dip-Print (Manchester),
Superintendent, Calcutta University Press, 48 Hazra Road, Calcutta-19.
AND
Printed by Kalidas Munshi, at The Pooran Press,
21, Balaram Ghose Street, Calcutta-4.

To the loving memory of
Dr. SATISH CHANDRA ROY
whom I owe more than I can ever acknowledge

FOREWORD

The writer has chosen a difficult subject and dealt with it admirably.

The main problems of Logic such as language and thought, judgment and proposition, truth, falsity and perception, implication and inference, and laws of thought are taken up by him and discussed with care and learning. He is familiar with the views of not only modern logicians like Bradley, Russell, Dewey and Blanshard, but also classical writers like Aristotle, Kant and Hegel.

His own view of *Referential Positivism* occupies a middle-of-the-road position, and tries to avoid the extremes of pure subjectivism and pure objectivism. Holding fast to the view that judgment is essentially bi-focal in character, he interprets this duality in a way that steers clear of metaphysical monism and dualism.

This is a most thoughtful constructive contribution.

S. Radhakrishnan

AUTHOR'S PREFACE

"Logic is not where it was and cannot remain where it is"—thus wrote Bradley in the eighties of the last century. The subsequent course of logical speculation has confirmed his statement. No apology is therefore needed for a reconstruction of logic in the light of recent advances in its own and adjacent fields. All that I have to say in this connexion will be found in the introductory chapter of the text.

But a word must be added concerning my obligation to previous writers. This is quite considerable and I have indicated it in relevant places. Some of the readers may, however, charge me with glib and arrogant criticism of my betters. But the stagnancy of logic for ages due largely to a religious respect for Aristotle should warn us against regarding any authority, however great, as sacrosanct. If a further reason were sought, I would point out that criticism itself is a veiled homage in such matters. As a rule I have criticised most those from whom I have learnt most. This is because I consider them to be nearer than others to the truth as it appears to me. Did I know better, I would perhaps be less hostile : as it is, I can but regret and pass. The youthful zeal displayed in the work, submitted as my D.Litt. thesis in 1947, does not, however, blind me to the truth of Whitehead's pregnant utterance : "Everything of importance has been said before by somebody who did not discover it".

My heartfelt thanks are due to the authorities of Calcutta University for taking full charge of publishing the treatise. Were I left to my own resources, it might never have seen the light of day. Whether that would have meant any loss, however small, to philosophic literature is for others to judge.

I am grateful to Prof. S. Radhakrishnan, my revered teacher, for the Foreword which is substantially his assessment report on the aforesaid thesis. He has very kindly permitted me to use it for the present purpose.

I am also thankful to the management of the Pooran Press for having spared no pains to do the printing as neatly as possible. Some typographic errors have crept in, however, in respect of both English words and Latin phrases. I must take upon myself the entire blame as I could not do full justice to proof-correcting because of my preoccupation with official duties in the Ministry of Labour and Employment, Government of India.

I have to close on a note of profound sorrow and regret. Dr. S. C. Roy, M.A. (Lond.), I.E.S. (retd.), who was a second father to me, passed away before my humble work could come out of the press. He had never seen the manuscript and, as a devout Vaishnava scholar, would not have approved of its underlying atheistic tone. None the less, its publication would have pleased him more than anybody else and I am dedicating it to his sacred memory which will for ever remain fresh in my mind.

New Delhi,
January 1961

B. K. Bhattacharya

CONTENTS

CHAPTER		Page
	Introduction	1
I :	Language and Thought	7
II :	Judgment and Proposition	25
III :	Proposition and Meaning	36
IV :	Categories and Concepts	51
V :	Nature and Criterion of Truth	71
VI :	Truth, Falsity and Perception	87
VII :	Memory and Introspection	114
VIII :	Affirmation and Negation	131
IX :	Simple and Complex Assertions	143
X :	Other Forms of Assertion	161
XI :	Judgments of Value	185
XII :	Inference and Implication	208
XIII :	Simple Inference	221
XIV :	Complex Inference	234
XV :	Laws of Thought	254
	Appendix : Bibliography	269
	Index	273

INTRODUCTION

1. This work is no metaphysical essay, as the title might suggest, but an inquiry into the basic concepts and principles of logic. The result of this inquiry is a theory of knowledge that may be found consonant with the recent findings of physical and mental sciences. But too much emphasis should not be laid on the theory itself. For our *main* purpose is not the formulation of a new theory of logic, but a re-thinking of its vital notions which have of late been attacked from more than one quarter. The tentative solutions offered by us of the different problems have a certain affinity, and this may be viewed as the sole reason for christening our general position in epistemology.

2. What logic wants to-day is no "original" theory, home-grown or imported, but an adequate analysis of thought in its actual setting. The dream of a logic that would be perfectly *neutral* and yet exhibit the nature of *concrete* thought is not likely to be fulfilled. It is time to review the relation of logic to theory of knowledge, so that it may not be swallowed up by psychology, or else by semantics. Nor is it less imperative to guard against the inroads of metaphysics and a consequent distortion of the basic concepts of meaning, truth and validity.

The desire to vindicate the "old ways of thinking" has forced upon us a reconstruction of logic, which tries to do justice to the relevant contributions of psychology, physics and semantics. We recognise no less the bearing of metaphysics on logical discussions, but would not allow it to liquidate our fundamental notions mentioned above. On the contrary, we stake our whole position on the right of logic to legislate for all communicable experience including a fruitful discussion of value and reality.

3. This has not always been properly realised. Hence we find many philosophers dealing with the problem of values without a prior analysis of the valuational judgment. Categories are, likewise, discussed without any reference to their function in knowledge or judgment. But no treatment of categories is profitable if we omit

all reference to knowledge whose functions they are. Similarly, values become meaningless short of their role in experience, and must, therefore, be discussed in the context of the judgmental situation. The reluctance to discuss the nature and role of the evaluative judgment has cast a veil of obscurity over the relation between value and reality.

Logicians are partly responsible for this situation by unduly narrowing the scope of their subject. We regard logic as an analysis of all types of judgment, cognitive, aesthetic as well as ethical. It is the science of knowledge in the widest possible sense, and must not, therefore, be identified, e.g., with the Formal, the Pragmatist, or even the Idealistic logic, all of which are vitiated by an over-emphasis on one aspect alone of the total judgmental situation. A brief criticism of each of these schools seems, therefore, quite in order.

4. The traditional, formal logic is vaguely conceived as an analysis of thought. But its actual procedure consists in now leaning on psychology to the utter neglect of philosophy and now relying solely on philosophy by throwing over psychology. Sometimes a psychological distinction is paraded as of great importance in logical doctrine and sometimes such a distinction is slurred over as of no consequence. Again, while some difficulties are sought to be met by tracking them down to their metaphysical sources, quite a large number of similar difficulties are shelved with perfect complacency. The barrenness of this logic is largely due to its half-hearted analysis of thought, as will be manifest in our subsequent discussion.

5. The halting method of formal logic is decried by idealists and pragmatists who proceed in their logical analysis in a bold and enterprising manner. Pragmatists realise that no analysis of thought which ignores its subjective aspect can be accepted as correct. And idealists recognise that no thought is truly so called if it has no objective reference to reality whose nature we try to apprehend. Both of them emphasise an important aspect of the judgmental situation and are, therefore, partly right. But while they do not ignore the other aspects, the pragmatists are pre-occupied with the subjective or "human" side of the matter, and the idealists put their emphasis on the objective side which points to Reality as one undifferentiated Experience. Hence the former "humanise" logic by opening the flood-gates of interests and passions, whereas the

latter plant our feet on the pathway to Reality, which turns out in the end to be a blind alley.

The pragmatist Schiller heralds the birth of a new science, "Psychologic", which will take the place of the time-worn logic. Prof. Dewey has worked out an elaborate "theory of inquiry" in his new "*Logic*" : but the cardinal principle of pragmatism, that truth is nothing but verification, reduces the whole scheme to a consistent fictionism that may be termed psychologism. "Warranted assertibility" is either an impossible ideal, or else a synonym for "utility" or "success in practice" (*cf. "The Philosophy of John Dewey", ed. by Schilpp, pp. 571 ff*). No pragmatist formulation of the definition of truth has gone beyond the statement of James that "the true is only the expedient in the way of thinking". The distinction made by Dewey between validity and truth is only a subterfuge for concealing the vital anomaly of pragmatism.

6. But while the pragmatists regard all truths as provisional, the absolutists start with the assumption that there is no truth which is short of the whole truth about the universe and quite naturally come to condemn all judgments as radically infected with error. The goal of knowledge is reality which it can never reach, and if, *per impossible*, it reached the goal, knowledge would have to commit suicide by becoming one with the Absolute.

In other words, the only kind of genuine knowledge is regarded as a sort of intuition such as is extolled by Bergson. But while Bergson considers pure intuition a possession of every man, Bradley thinks it to be the monopoly of the Absolute. Both agree, however, in their condemnation of the judgmental cognition which is viewed as incurably erroneous. Hence the logic of the intuitionist and the absolutist alike is a logic not of truth but of error. It was the merit of the greatest idealist Hegel to have realised that a logical idealism must equate thought with reality, and logic with metaphysics. As for the intuitionist, it is sufficient to observe that he flourishes in the arena of mysticism but that logic spells death to his romantic ardour.

7. A band of modern thinkers want to save logic from the corrosive influence of subjectivism and objectivism by making it soar into the rarefied atmosphere of mathematical abstractions. But the security is purchased at too great a price. For while an exclusive

emphasis on the subjective or the objective aspect tends to distort our account of knowledge, it does not follow that the right method is to ignore all reference to the knowing process and the known object, and concentrate solely on certain abstracted features of the concrete situation.

Such a procedure is a reaction against the stagnancy of the old logic and is encouraged by the hope of an immediate discovery of demonstrable principles. The same tendency that would reduce philosophy to logic manifests itself in the desire to equate logic with pure mathematics as the science of abstract forms or symbols. Thus we are told that "there is a certain lordliness which the logician should preserve: he must not condescend to derive arguments from the things he sees around him." For if he holds himself aloof from the vulgar world of everyday life, logic will be true in all possible worlds, and "not only in this higgledy-piggledy job-lot of a world in which chance has imprisoned us." (*Russell, "Introduction to Mathematical Philosophy," p. 192*).

The mathematical logician is no doubt occupied with an important subject, viz., the study of pure forms, and is carrying on a tradition that starts from Aristotle. He is perfecting the old logic on its formal side, which was hopelessly inadequate in spite of its insistence on the forms of thought. But this development takes him far away from the concrete judgmental situation with which logic has ever claimed to deal. Thus the new science of logistic, though of great value as an intellectual exercise as also as a supplement to logic, cannot be identified with logic proper as the analysis of our actual, concrete judgments. If logic is blind when deprived of its two eyes of psychology and metaphysics, it is barren when divorced from the living, throbbing experience which alone makes truth and falsity meaningful terms in discourse.

8. This is why we regard all distinction between logic and theory of knowledge as artificial and invidious. Knowledge is essentially bi-polar,—it points at once to the subject or knower and the object or the known. Hence it is impossible to discuss problems of knowledge without a constant reference to psychology and metaphysics. But these are liable to perpetual modification. We are not amongst those who believe that philosophy can present to us absolute truths, truths that are final because not liable to rejection at any time in future. Hence logic as the study of concrete experience

must accept this as an inevitable limitation and not seek salvation by wholly discarding all reference to psychology and metaphysics. It must, in other words, rest content with tentative theories based on verification and always subject to revision in the event of fundamental discoveries in its own and allied fields. Thus alone can it become a progressive study of knowledge in its integral character.

9. So, the theory of knowledge presented below is only a hypothesis, a provisional explanation of the nature of knowledge, truth and validity, and can lay no claim to finality or absolute certainty. No attempt has been made to prove or demonstrate but only to verify it by an appeal to the different types of experience. The discussion is mainly constructive, but it was found impossible to fight shy of all polemics. The critical side is not, however, meant to be exhaustive: it touches only on fundamental points. We considered it unnecessary to dilate on others' short-comings, but only referred to them by way of showing the need for a new venture.

The theory advocated in these pages may be called "*referential positivism*" and is based on the writer's views in psychology and philosophy. The psychological basis is a dynamic view of mind accepted by those thinkers who are "in the middle of the road". (*Woodworth, "Contemporary Schools of Psychology", p. 218*). The philosophical background is a positivism that discards all transcendent entities whether in the Platonic, Kantian, Russellian, or any other forms. It regards all things, minds not excepted, as at once actual and ideal. It makes short work of pure subjectivism and pure objectivism both popping in with new caps on once in every age. The resultant theory is not a compromise between idealism and realism, but contains the elements of truth enshrined in them. It might be termed a new Kantianism shorn of its noumenal trappings, but such a description would be misleading by ignoring vital differences in aim and procedure. And though positivistic, it does not moan for the thing-in-itself in the manner of the Comtean doctrine. Nor does it reduce knowledge to a system of verbal utterances as is done in logical positivism.

10. Referential Positivism tries to explain human judgments without reducing all of them to facts, or fictions, or falsehoods, or "faulty gibberings" of arrogant anthropoids. The besetting sin of all subjectivism and objectivism alike is the failure to hold fast to the primal distinction between knowledge and reality. The *duality*

essential to the judgmental situation need not and does not entail a *dualism* between the subject and the object. And yet it is the fear of such a dualism that must be held finally responsible for the epistemological monism accepted consciously or unconsciously by many of the current forms of idealism and realism. Once we realise the bi-polar character of all knowledge, we must refuse to liquidate the subject-object distinction in favour of a metaphysical monism, idealistic or otherwise. The moment we abolish this distinction, we are driven to the position that all judgments, correct or incorrect, are alike facts, or fancies, or untruths, or merely verbal utterances.

The idealistic logic ends in "ship-wreck", and a similar fate overtakes the logic of the "new realists". Pragmatism comes to view man as the maker of truth of which logic is a handy tool, while logical positivism reduces it to grammar, thereby becoming positively alogical and untrue to its name. An attempt has been made below to rescue logic from this quagmire of subjectivism, objectivism and verbalism, though a full justification of the metaphysical position will be the occasion of a future work. Meantime we pass on to the exposition of the logical doctrine with a bald statement of its psychological basis and an analysis of the nature of language which is the vehicle of all intelligent communication.

CHAPTER I

LANGUAGE AND THOUGHT

1. The human mind viewed as a dynamic entity has three kinds of activities,—cognitive, affective and conative. These can be distinguished from one another, but are never found in isolation. In the conative attitude the mind interferes or wants to interfere with, alters or wants to alter, anything other than itself. The affective attitude consists in its being pleased or displeased with something in various ways. In the cognitive attitude the mind holds an object before itself in several ways, its attention being solely directed to the nature of the object.

The descriptions are not offered as precise definitions of the mental attitudes, for, being unique, they are strictly indefinable. Further, the descriptions cannot be exclusive of one another since the different mental states, as mentioned above, are always found together. The mind is what it does; its nature is revealed to us in and through its behaviour or activities. Any actual state or activity has all the three aspects or features of cognition, affection and conation, though these are not equally prominent in different activities. A particular state is classed under one of these three factors because of the preponderance of that factor or element in its concrete actuality.

2. Minds as known to us in their embodied forms communicate with one another by means of language. The hypothesis of telepathy or direct communication, as based on insufficient evidence, will be left out of account here. Ordinarily, human beings express the states of their minds by means of words spoken or written. Words are either visual or auditory objects having meanings. A word is meaningful if and when it stands for or represents something other than itself. Words are symbols, though all symbols are not words. "A symbol", as Bradley says, "is a fact which stands for something else, and by this, we may say, it both loses and gains, is degraded and exalted. In its use as a symbol it forgoes individuality and self-existence. It is not the main point that *this* rose or forget-me-

not, and none other, has been chosen. We give it, or we take it, for the sake of its meaning; and that may prove true or false long after the flower has perished. The word dies as it is spoken, but the particular sound of the mere pulsation was nothing to our minds. Its existence was lost in the speech and significance......By merging its own quality in a wider meaning, it can pass beyond itself and stand for others. It gains admission and influence in a world which it otherwise could not enter. The paper and ink cut the throats of men, and the sound of a breath may shake the world." (*"The Principles of Logic", Vol. I, pp. 3f.*).

Hence a word without meaning is only a noise, or a "mound of ink", as Neurath says. Any noise or shape is not a word. Verbal noises and shapes differ from other auditory and visual occurrences by having meanings. The meaning of a word consists in its symbolic or representative character. Custom has endowed words with definite meanings, but new words are constantly being coined and even old words are in the habit of acquiring new meanings. The meaning or symbolic character of a word is dependent on our motives or intentions.

Hence meanings cannot be laid up in a Platonic heaven removed from the pageantry of human affairs. None the less, a superstition as to the self-subsistence of words has infiltrated philosophy ever since the dawn of human speculation and it survives to our own day in the writings of Carnap and others of his circle. But it is of utmost importance to purge our minds of all mystical awe for the magical attributes of words. Words as symbols wield an enormous influence; they are not, however, universals dwelling in a transcendent region but in and through the particular shapes and noises made by man. A word is in fact, as Wittgenstein says, a "family"; it consists of a number of shapes and sounds having an identity of reference. The identical reference that runs through them all is a gift of custom and authority. It is because a word is at once universal and particular that it can stand for or symbolise both general qualities and particular facts. (cf. the Vedantist view in this connexion: *Dr. D. M. Datta, "The Six Ways of Knowing", pp. 265 ff*).

Words, then, are symbols, or sounds and shapes with meanings. They are made up of, or representable by, letters of the alphabet. This does not mean that letters are fundamental. These are the results of the analysis or breaking up of a word into parts that are common to different words. Analysis cannot proceed further when we have splitted up a word into its constituent elements. Some languages like Chinese stop at whole words or "ideograms" in the task of analysis, and primitive languages that have no written records cannot possibly make any distinction such as is embodied in letters. Letters which are the most elementary things in a written language have no separate existence. They are always found in words, or as words.

3. But words, even, do not normally occur in isolation. Even when they do so, as in the speech of a primitive mind (individual or racial), or for reasons of brevity, anger, fear, or haste, etc., they are really associated with other words not expressed. And both the expressed and the unexpressed words together serve as the complete vehicle of communication. The unit of language or genuine communication is the sentence which is analysable into words.

A sentence is essentially the verbal expression of a mental attitude whether cognitive, affective, or conative. It is a flimsy bridge across the yawning gulf that separates mind from mind. True, the mental states of another person are inferred by analogy from his countenance, gait, gestures and physical activities in general, but such knowledge is always meagre, bound to the present moment and often precarious in the highest degree. Such knowledge is most helpful and trustworthy in respect of affective attitudes, but not so reliable in regard to conative ones, and very slender in the case of cognitive states or processes. Here language is our only resource, in spite of the fact that lying is so prevalent in every community even as a concomitant of culture. But lying is resorted to on the assumption of the general trustworthiness of language as an index to the mental state. Hence we may, *on the whole*, regard language as the commonest and safest form of communication between one mind and another.

4. The function of communication involves two factors, expression and reference. All language is the expression of a mental state. Even a lie expresses a mental state, though its appearance belies its reality. For the lie seems to express a belief, but really is the expression of a disbelief. Whether a sentence expresses a particular belief or not can only be judged by a person who can compare the two. This shows that we cannot straight away

identify the expression with thought. But every thought is in a sense its own expression, if by expression we mean not the overt utterance, but the verbal imagery accompanied by what Watson calls "sub-vocal speech". The behaviouristic account of thought as sub-vocal speech errs by excess; but it puts its finger on an important truth not always realised by those who make a sharp distinction between language and thought.

The recognition of the intimate connexion between language and thought is found even in the "*Theatetus*" where Plato bluntly says that "Knowledge is judgment *plus* discourse". "It is this *plus*", as Prof. Urban asserts, "without which knowledge is not complete". (*"Language and Reality"*, *p. 350*). But it is not a mere *plus*, because discourse or communication is indissolubly bound up with judgment. We do not have *first* a judgment and *then* its linguistic expression; the linguistic expression in an *implicit* form is already there in the judgment itself. If (correct) judgment is regarded as the unit of knowledge and if knowledge is essentially communicable, though not always actually communicated to others, then we must hold that the judgment is its own expression.

If such a mode of speech is regarded as objectionable, we may modify the original statement and assert that expression is the indispenable accompaniment of judgment or thought. In this sense we can accept the dictum of Wittgenstein that "the limits of my language are the limits of my world", for my world is in a way determined by my knowledge and experience. (*"Tractatus Logico-Philosophicus"*, *p. 151*). Both Berkeley and Bosanquet are partly right when they declare respectively that "*esse* is *percipi*" and that "reality is given for me *in* present sensuous perception, and *in* the immediate feeling of my own sentient existence that goes with it. (*Bosanquet*, *"Logic"*, *Vol. 1*, *p. 72*).

Expression is part of the knowing process; but there is no expression which does not contain the distinction between the expression and the expressed, and hence we cannot equate thought with language in spite of their indissoluble union. Intuitionists like Bergson and Croce ignore the bi-polar character of knowledge and hence the ideal knowledge for them is a distinctionless intuition which is quite naturally regarded by Bergson as ineffable. But Croce sought an escape from this deadlock in theory of knowledge by identifying intuition with expression, which did not seem unplausible in his idealistic philosophy. But intuition as pure presentational immediacy is, as Cassirer says, "a mythical phase of knowledge"; mythical, we should add, if regarded as full-fledged knowledge, but actual as an inseparable element in all cases of direct or underived knowledge. Every case of genuine or communicable knowledge involves language, the function of which is not to create or mirror reality, but to symbolise it, as a constant concomitant of thought. Only a thoroughgoing intuitionism can advocate an absolute separation between language and thought. But such a doctrine must needs be "speechless" and hence not worthy of consideration.

5. Thus it is clear that communication involves expression as one of its factors. Expression is the expression of mental states which are always *referential* in character. Reference is an elusive feature of a mental attitude, but short of this we have no mental state. Every such state points beyond itself to something else. It is this referential character or self-transcendence that distinguishes a mental state from a physical process. A physical process has, indeed, a continuity but that is a continuity of being or existence. A mental state, because it is a cross-section of "the stream of consciousness", has an existential continuity; but in addition to this it has another sort of transitiveness which is its referential character. All physical states are, in macroscopic language, states of things, but mental states are not only states *of* minds, they are also *about* things. They have referents, or objects upon which they are directed. Every cognition is directed upon an object; all affection is with or about something; and each conation is invariably turned towards a thing which it would retain or alter. Hence the sentence that expresses a mental state must also contain a reference to the object of the mental state.

The referential character of the sentence is, in a way, derivative because it is a consequence of its function as expression; but it is of utmost importance to recognise it clearly. For to a failure in this respect must ultimately be traced the contention of the Logical Positivist that truth is only a syntactical relation among verbal utterances of a "culture-circle". If the sentence were merely the expression of a mental state in its ontologic character, language would lose most of its value and be left with only a biographical interest. But even that would disappear, because a mental state in its existential character alone is a logical abstraction. All the interest in the mental state of another person is derived from its referential character. Because he is a member of society, his activities are not indifferent to our interests and we listen to one another in order to know what goes on "under our hats".

The referential character of the sentence is often designated as its indicative function. (Cf. *Russell, "An Inquiry into Meaning and Truth", p. 26*). But the name is perhaps unhappy, because it might suggest a connexion with the *indicative* sentence only. The same purpose is served better by calling it the referential function, and it is clear that *all* sentences, whether in the "indicative mood" or not, have this referential function. Even exclamatory sentences are no exception, though they may seem so at first sight. That all sentences as *uttered* do not explicitly have this reference is clearly because they are uttered in particular contexts where the referent can easily be recognised, even though it is not contained in the sentence in its elliptical form. The reference may be explicit or "understood", but this, and nothing else, can make the sentence a complete medium of communication.

6. Expression and reference are, then, the twin functions of language as a medium of communication. It is taken for granted that the speaker and the hearer speak or understand the same language. Where they speak different languages, no communication is possible for the simple reason that what is language to one is gibberish to the other. It is meaning that is sharable by different minds, and meaning is wholly relative to a "culture circle" or community having the same customs regarding the interpretation of verbal symbols. This shows that the referential character of language is wholly derived from its association with thought. Without an identity of reference indicated by thought language becomes meaningless jargon worse than the "cries of the beasts of the forest" which even have an expressive and a referential character of a primitive kind.

Perfect communication requires definite meanings and these are universals revealed in and through particular experiences. A single or unique experience is incommunicable because it has no accepted meaning. Hence "to be communicated it must needs be referred to a class that is tacitly accepted by the community as an identity" (*Sapir, "Language", p. 3*). Mutual acknowledgment of the universal is the indispensable condition of communication which is no transferance of ideas from one mind to another. It is the recognition of an identity of reference on the basis of perception and analogy that makes speech intelligible and communication possible. Meaning is, then, at once subjective and objective. It is the identity of reference, running through similar sounds and shapes and acknowledged as such, that constitutes the meaning of a word. A sentence is meaningful or significant when its constituent words are meaningful and as a whole it expresses a mental state in its referential character. All genuine sentences are significant; the non-significant do not express a mental state and are mere jumbles of words. Even the meaning of a word can be fixed by means of sentences which are the units of communication. Thus we come back to the sentence with its two-fold character of expression and reference.

7. Language as communication has another function which shows its teleological character. No one utters a sentence but for a particular purpose. The purpose is to alter or retain the state of the person to whom it is addressed. Communication, it is obvious, implies a duality: there is someone who communicates and some other to whom the mental state of the speaker is communicated. There is "a give and take" in every case of communication. But the speaker is always the giver and the gift is made to the hearer. This gift, however, is not at all disinterested: it is always inspired by a motive which is to influence the hearer. This intended influence may be great or small, but no one save a lunatic would utter a single sentence without any purpose whatsoever. Even when we talk to ourselves, we do so in order to clarify our ideas, to carry on a train of reasoning, to excite or curb our feelings, to relieve a mental tension by giving vent to it, or to form a firm resolution regarding a future course of action.

Language is incurably teleological and hence a puzzle, or a "miracle", for thoroughgoing mechanists who would reduce minds completely to bodily functions or activities. The doctrine of *conditioned reflexes* is plausible and even true upto a point in the explanation of thought as sub-vocal speech. For speech (that is an invariable accompaniment of thought) has a mechanical aspect, which does not, however, exhaust its nature. Language is no language without meaning and meaning is determined by intentionality expressible in words.

8. All language as the embodiment of thought is thus purposive or motivated. There is always an element of purpose lurking behind

a sentence, though all sentences do not explicitly contain this intentional feature. Imperative sentences have an explicit reference to this, the "emotive" or "vocative" element. Some writers have supposed that the emotive function belongs to one class of sentences (called "pseudo-statements"), and the referential function which they call the "scientific use of language" belongs to another class with the distinctive character of truth-value (statements proper). (*Cf. Ogden and Richards, "The Meaning of Meaning", pp. 158 ff*). The use of the word "emotive" shows the root-cause of the contusion. All language, we have seen, is a bridge, as it were, between one mind and another. It is communication, not mere expression, and hence it contains a reference, explicit or implicit, to the state of the hearer. This may be called the intentional function of language, and the intention of the speaker is to make the hearer think, feel, or act in a certain way. This intentional feature is not, however, identical with the expressive character of language. For while the former refers primarily to the hearer, the latter points directly to the speaker.

Hence it is wrong to say, in criticising the view of those who would make a sharp distinction between the scientific and emotive uses of language, that language "never communicates simply a dead image of external reality", but that "in conveying the image, it simultaneously expresses an attitude towards it". (*Humayun Kabir, "Poetry, Monads and Society", p. 40*). Apart from the fact that language never conveys an *image* of reality, living or dead, the emotive function of language is not the same as its expressive function. This is clear from what Mr. Richards says explicitly: "A statement", he tells us, "may be used for the sake of the *reference*, true or false, which it causes. This is the *scientific* use of language. But it may also be used for the sake of the effects in emotion and attitude produced by the reference it occasions. This is the *emotive* use of language". Again, "we may either use words for the sake of the references they promote, or we may use them for the sake of the attitudes and emotions which ensue". It is strange that Mr. Kabir, criticising Richards, should have confused the "emotive use" which is explicitly mentioned to refer to *effects* which follow the uttering of a sentence with the expressive function of the sentence which relates to the *cause* of its utterance.

Anyway, the confusion, we think, is due to the word '*emotive*' which should better be replaced by 'intentional' or 'teleological'. For the intention of the speaker may be not only to arouse an emotion in the hearer, but also to initiate in him a thought, or to inspire him for a voluntary activity. As soon as we recognise this, we see that there is no fundamental difference between the so-called scientific and emotive uses of language. The emotive use would be impossible without the scientific or referential use, inasmuch as an emotion cannot be bodily transferred from one mind to another. Communication may involve conveyance, but conveyance does not amount to communication till there is the deciphering of the symbol familiar to both the parties, and it is the reading of the conveyed symbol that completes the cycle of communication.

9. Hence the emotive language is also symbolic and representative, though this representation is not, as is often supposed, a mirroring or imaging of reality, but is best described as an indication or act of reference. Any other description of the representative character of language raises insuperable difficulties matched only by similar difficulties invited by the representative theory of knowledge. It is some such assumption as to the function of language that has led more than one thinker to say that language is not "*moulded*" on reality and is therefore a faulty medium of expression. (Cf. *Bergson, "Creative Evolution" and "Introduction to Metaphysics"*). Language, however, never attempts to copy or mirror reality, but only to represent it by means of acknowledged symbols. Any deficiency in the vocabulary of a language may be remedied by a revision or supplementation of the prevalent symbols, and hence it is rash to condemn it as inherently erratic. We speak of a language as "living" or "dead", and this shows that it is amenable to all necessary modification.

Thus we can countenance, upto a point, the proposal to "redesign" language for the purpose of expressing new insights into the mysteries of reality so long withheld from mankind. (*Whitehead, "Process and Reality", pp. 78 ff*). But it would be self-stultifying to declare that language is intrinsically incapable of expressing "a fundamental statement of the nature of things" because it cannot but do "violence to immediate experience". If the immediate experience in question is a mystical vision, or diffuse awareness, then it needs must be inexpressible. But if it is *knowledge* in any intelligible sense, we must regard language not as an external tag or mould, but a necessary condition and even a constitutive element of it. He who considers language an excrescence of knowledge must inevitably condemn a large part of human discourse as veritable babel or "mere blah, blah". Indeed, consistency would require such a person to advocate a bankruptcy of meaning and absolue paralysis of speech.

Mr. Russell in his salad days had pleaded for a neo-nominalism which is an offshoot of logical atomism pulverizing the universe into *sensibilia* symbolised by nouns alone. (*cf. "Mysticism and Logic", and "The Scientific Outlook"*). But grey hairs have brought him to the recognition that "by means of the study of syntax we can arrive at considerable knowledge concerning the structure of the world". (*"An Inquiry into Meaning and Truth", p. 347*). This logical somersault should be a standing warning to those who would brand language as a distorting lens to be got rid of in the interests of philosophic knowledge as a superior possession of the select few.

He who speaks at all must assume the general efficiency of language as a vehicle of communication. Even the superior brand of knowledge lodged in science and philosophy is, in a true sense, language made precise. There is no absolute chasm separating scientific language from the language of the man innocent of scientific lore that the latter can be condemned wholesale without any slur on the former. Both the philosopher and the scientist are also human beings speaking the common speech in their daily life. The language of the academy and the laboratory is only a more exact version of that of the man in the street. All language is essentially communicative and has a common fund of meanings on which both the speaker and the hearer draw for understanding one another. Language that is perfectly esoteric is perfectly unintelligible and hence no language at all. But it is time to return to the *intentional* function of language as an addition to its expressive and referential functions.

10. The intentional function is in a sense derivative. We utter a sentence because we want to influence the hearer in a specific way and when we have uttered it, it does cause certain changes in his state. Even when our words "fall flat" on his ears, they do have a certain effect, if only to initiate or sustain a state of indifference. Hence we would not be far wrong in regarding the intentional character as a secondary function of language. The intention is the *cause* and the influence is the *effect* of the sentence which is primarily the expression of an act of reference. It is because the sentence is the expression of a mental state that it is able to produce certain specific changes in the state of the hearer. Hence we may

look upon expression and reference as the two-fold function of language in the first instance.

Prof. Urban has emphasised, in addition to both indication (i.e., reference) and expression, the representative function of language. (*cf.* "*Language and Reality*", *pp. 68 ff*). But, surely, the referential and expressive functions together make up the representative character of language. The sentence, which is the linguistic unit, stands for or represents a mental state in its referential character. Is it right to call the sentence an expression in any other sense? The symbolic or representative function of the sentence is the very expression of the mental state in its referential character. The sentence cannot directly represent reality in the sense that it is the immediate effect of the impact of reality on the mind. However much we may emphasise the intimate bond between language and thought, we cannot omit thought as the connecting link between language and reality. To do so would be to swallow Behaviourism in an undiluted form.

Hence, if we realise that the sentence is the expression of a mental state in both its existential and referential features, we cannot assign a *third* function of representation to it in addition to its expressive and indicative features. This third function can be admitted only by those who regard "emotive expression" and "indication" as two diverse functions of language. But as indication is meaningless without symbolic representation, it is not necessary to recognise representation as a supplement to indicative expression. Briefly, then, the primary function of language as the medium of communication is symbolic representation, which may otherwise be described as "indicative expression", or the expression of a reference. The representative function fulfils itself in expressing the mental state in its referential character.

11. The sentence, which is a genuine or significant utterance, is always the expression of a mental state in its concrete actuality or two-fold character. An "imperative" sentence expresses a conation, i.e., a mental attitude prominently conative or volitional. Here the *intentional* function is conspicuous, but the expressive and referential functions are less prominent. Hence the sentence contains no explicit reference to the state of the *speaker*, but such reference is only too clear in the concrete situation that generates the utterance. It embodies the intended result or influence that is expected to

ensue on the pronouncement. An imperative sentence is the expression of a speaker's intention regarding the future course of action of the person to whom it is addressed. It contains a request, a command, a threat, or a prayer. The referential function may seem to be absent, but it is none the less there, because the intention is not and cannot be objectless. The expected result is the referent which is not present as an actual state of affairs, but as a possibility projected from the mind of the speaker into the womb of future. The referent is not, however, *asserted* but is intended to make a demand on the attention of the hearer. The sentence dictates or craves the limitation of the hearer's choice to specific alternatives. The referent in such cases is a voluntary activity and the act of reference is, as it were, a shooting into an as yet non-existent target expected, by the speaker, to make its appearance as soon as the shot is discharged. Language in imperative sentences is *primarily* "emotive" with reference to its effects.

Exclamatory sentences, on the contrary, are mainly expressive. They express conspicuously the mental states of the speaker,—the states not so much in their referential as in their *existential* character. They give vent to our *feelings and sentiments*, as imperative sentences express our intentions and desires. Feelings are peculiarly personal and subjective: the referential character in them is all but elusive. They seem to "cling to our hearts", adjectival to the cognitive and the conative states. The fact is, emotions and feelings are complex states containing many ingredients of organic sensations issuing from the viscera and vital organs, all clustering round an instinctive response with a prominent hedonic tone. But the referential character is no less present because the instinctive response cannot take place *in vacuo*. Even a simple feeling of pleasure or pain is correlated with an object. Feelings are about something or evoked by something.

None the less, it is the peculiarly centripetal character of feelings that explains why they are not usually accompanied by verbal utterances. Though we cannot think or intend clearly without the help of language, we seem quite able to *feel* without speech latent or overt. But sometimes the vehemence of feelings occasions a verbal outburst which is communicative in intention even though no one is near at hand. And such an utterance does contain a referential character, although the referent may be an internal state other than the one expressed by the exclamatory sentence. Some exclamatory sentences, however, are not mere ejaculations or expressions of feelings, but indicative sentences of an elliptical type.

Optative sentences are a hybrid class, being a blend of exclamatory and imperative sentences where the referent is one's own future action. They partly express feelings and partly embody requests to oneself to attain a covetable object. To the extent that the reference to energisation is vague, the optative sentence approximates to a supposition which is a truncated sentence of the indicative type.

12. The cognitive attitude is expressed by an indicative, interrogative, or subjunctive sentence. Each of these varieties of cognition involves the suggestion of an objective *relation*, a relation among trans-subjective facts. The term "trans-subjective" means that the relation in question is not between two mental states in their existential character, nor between the cognition itself in its referential character and the object of reference. All cognition, like affection and conation, is referential in that it is *of* or *about* something. But it differs from the other two kinds of mental states in this, that while their referential character is a relation between the state itself and the referent, the reference of cognition is to *another* relation among objective facts.

The reference that is involved in each and every mental state is invariably a *dyadic* relation, one term of which is a mental state and the other may be a physical object as well as another mental state. But this other term in the case of cognition is complex involving relations which may be polyadic, or dyadic, or even monadic (if by "monadic" we mean the *unique dyadic* relation of substance and attribute). Further, the *referent* of cognition, unlike that of other mental states, monopolises the interest of the experient. This is what makes the reference in cognition virtually different from that contained in affection and conation.

13. We may invite misunderstanding because of this somewhat peculiar type of explanation that seems to run wild in abstract thinking. Hence we will dilate, even at the cost of repetition, upon the referential character of mental states.—Rerefence is almost an impalpable feature of mental states : it seems inscrutable at the time it prevails in consciousness. It is an intrinsic and inescapable aspect of a mental state, and as such it is no more capable of self-scrutiny

than the eye which sees everything else. But just as the eye can see its image in the mirror or any other reflecting surface, reference can detect its shadow in introspection which has a previous mental state for its referent.

But the cognitive reference is somewhat different from that involved in affection and conation. In both affection and conation the transitive reference is in a way secondary: they reveal more the nature of the subject than of the object or referent. Feeling is the barometer of the mental weather: or, to change the metaphor, it is a tone or flavour that clings to the core of mental life. Conation reveals the mind in its most dynamic phase: it is the tension of the mental bow bent towards the future. But cognition is peculiarly "other-regarding". It is, of course, a state of the self and reveals its nature; but this revelation is not direct but indirect, and takes place in a subsequent act of cognition. If some one else could "read" our mind at the time the act of cognition took place, for him indeed the revelation would be direct. But the act of cognition, in the very moment of its occurrence, does not turn back upon itself and reflect on its own nature. It is, in a true sense, centrifugal, directed as it is to the nature of the object or referent. Hence the transitive reference is its very life and fibre. Here the arrow of the mental bow has been discharged, whether it meets or misses the mark.—It is impossible to describe reference without the help of figures of speech. Reference is a unique trait of minds and has no exact analogue in the physical world.

The cognitive reference, as mentioned above, is more complex than the reference involved in feeling and conation. Here the referent itself is a relational complex which the mind accepts as an *other* claiming, as it were, to be recognised as such. When an external stimulus causes or excites a feeling, the feeling consists in a recoil of the self upon itself; conation consists in reacting upon the stimulus; and cognition is a survey of the character of the stimulus.—One cannot describe adequately the three aspects of mental life taken in isolation from one another. Psychology as the study of mental life describes the nature of concrete states in their complex character; but it hardly attempts to define, or even describe, either cognition, affection, or conation all by itself.

14. The distinction between these three aspects may be indicated in another way. All of them are mental states, activities or

processes, "-ings", as Lloyd Morgan says, directed upon "-eds", i.e., facts or objects. Each state is a "minding", while the object in each case is "minded". But though all the states are activities, the affective attitude is comparatively passive, the conative attitude is predominantly active, but the cognitive state occupies an intermediate position between them; it is equally active and passive. It is active because it involves, as we will see presently, an element of interpretation; and is passive, because always receptive, in that it accepts the referent as a fact or reality.

The cognitive attitude in its central form is an act of belief, which means acceptance of the given in consciousness as an independent real. It always involves, as Stout says, "objective control of subjective activity". (*"Manual of Psychology", p. 601*). This is why many thinkers, like Hume and Russell, have supposed that belief is essentially a complex of feelings. But such a view ignores the predominantly transitive character of belief in spite of the presence of the element of passivity in it. The passivity is, moreover, a receptiveness, which shows that belief is not affective but cognitive in character. It is the awareness of an object, already there, independent of my awareness of it. The consciousness of "out-there-ness" is cognitive, not affective. It is this peculiarly complex character of belief that led James to declare that belief is "perfectly distinct, but perfectly indescribable in words" : "it feels like itself—and that is about as much as we can say". (*"Psychology", Vol. II., pp. 284, 286*).

Belief is not, however, identical with cognition, though it is the most primitive, because the attitudes of doubt, questioning and supposal appear later than belief in the life-history of an individual mind. Belief in its simple form is bound to the present in a way that those other attitudes are not. Perception has a direct contact with the immediately present object, which doubt, questioning and supposal lack. They involve a *severance* from the present, which is not found in perception. This is why even the lower animals must be supposed to have a sort of perception, though it cannot be the same as human perception which involves *ideal* interpretation. They are untroubled, as Browning says, by the "spark" of doubt. Man, however, quickly learns to effect the severance necessary for doubt, questioning and supposal. The process of "sophistication" really begins in childhood, for the imagination of the child is very vivid. But though the child is able to perform the severance necessary to these attitudes, he does not clearly recognise the distinction between these and the attitude of belief, and hence it is that he often fails to know the real fom the imaginary.

15. Those attitudes are secondary in that they are always parasitical in character. No supposition, doubt, or questioning can stand by itself; each derives its distinctive feature from its relation to belief. Supposal is the entertainment of a suggestion as to the object of a possible cognition. The attitude of belief is held in abeyance at the present moment, but is nevertheless present all the time in the ante-chamber of consciousness, ready to make its appearance. The persistent attitude of the mind is one of belief, and the other cognitive attitudes are but occasional diversions with a serious or playful intent.

Doubt and questioning are more akin to belief than supposal. The cognitive attitude has two main forms, serious and playful. The serious form is controlled directly by objective facts. Here the subject is on active service and works under the direct serveillance of its master, reality. But in the attitude of supposal, the mind enjoys a holiday away from the supervision of the hard taskmaster. This holiday may be short or long, but is always a holiday and the mind must return sooner or later to the service of reality. Only stark lunacy is a permanent dismissal from all serious work. In writing or enjoying a work of fiction we take leave of belief for a few minutes or hours, but return to it all too soon, as it was unremittingly hammering on the threshold of consciousness. Single acts of supposal are closely bound up with the attitude of belief, as in the case of implicative assertions (which will be considered in the sequel). In general, then, while belief deals with facts and owes allegiance to them, supposal repudiates that allegiance for the time being and even ventures to play with them. The immediately present object given in perception does not usually figure as the object of supposal. The mind in its fanciful mood plays with objects which are remote from present perception and hence it can manipulate them according to its sweet will. None the less, while in belief it is controlled by facts, in the attitude of supposal it feigns to be so controlled and therein lies the interest of the play. Supposal in its most conspicuous form is an act of make-believe.

Doubt and questioning are, like belief, serious mental attitudes. While the mind in making a supposition plays with reality, or rather plays at belief, in questioning and doubt it moans for reality and strives to approach belief. Supposal does not disturb our mental equipoise, but questioning and doubting create precisely such a disturbance. Here the mind feels a gap or void between itself and reality, and attempts to fill up the void so as to get back the state of equilibrium. If supposal, therefore, turns away from belief though only for a while, questioning and doubting always look towards the direction in which belief may lie so as to reach it sooner or later. Doubt differs from questioning in this, that while in the latter attitude the mind holds a suggestion before itself and tries to determine by means of direct experience or by inference from previous experience whether the suggestion agrees with reality or not, doubt consists in vacillating between *two* or more suggestions without trying to ascertain their agreement with reality. While supposal is at the furthest remove from belief, doubt and questioning occupy an intermediate position, but questioning is one step ahead of doubt on the way to belief.

If we express the different attitudes in schematic language, the result is somewhat as follows. Genuine supposal says, "If it were so"; doubt declares, "It may or may not be so"; questioning begs, "Is it so?" and belief asserts, "It is so". Supposal that is very closely associated with belief says, "Let this be so".—We are aware that such a description is no proper definition or explanation of the mental attitudes in their unique features, but we have all the same tried to indicate in a rough manner how they differ from one another. And the leading thread in this psychological labyrinth has been the character of the reference that is common and peculiar to all cognitive states.

16. This bi-polar reference has at one pole the mental process in its existential character, and at the other pole a complex object on the nature of which all our attention is focussed. In the case of feeling the emphasis is definitely on the *existential* feature of the mental state, i.e., on the nearer pole, and in conation the emphasis falls on the process of *referring*, but in cognition all the emphasis is on the farther pole or the *referent* which is the object of cognition. The distinctive trait of feeling is its *existential* character, the peculiar mark of conation is its *energising* or referring, and the defining quality of cognition is its concentration on the *object* of reference. All of them are mental states and essentially bi-polar, and all involve reference such as is not found in the non-mental world. But the

distinction that analysis discovers among themselves is solely a distinction of emphasis, or *prominence*, of these different aspects in different acts of reference which are always bi-polar in character. And as no actual state of consciousness is solely affective, conative, or cognitive, this seems to be the only way of distinguishing between the different aspects of a concrete state which we treat as if it were identical with any one of these aspects.

The cognitive reference, then, differs from other references because of its emphasis on the farther pole which is the referent or object with its complex character. This reference should have a distinctive name and this is what we call the *propositional reference* in order to mark it off from non-cognitive references which are affective, or conative. Logic is primarily interested in the cognitive attitude, and henceforth our discussion will centre on the topic of cognition or thought.

CHAPTER II

JUDGMENT AND PROPOSITION

1. Judgment is the acceptance of a propositional reference. This reference, we have seen, differs from other references in having a complex object at the farther pole on which all our attention is focussed. The mere entertainment of such a reference, however, does not amount to judgment. For all cognitive acts, whether judgmental or not, share in this character. The distinctive mark of judgment lies in the *acceptance* of a propositional reference. Such acceptance is the awareness of an objective situation and is known otherwise as belief. While the act of supposal is the tentative *acceptance*, and doubting the *provisional rejection*, of a reference, and questioning is an *attempt* to ascertain whether it is acceptable or not,—judgment or belief consists precisely in the *definite* acceptance of a propositional reference. The non-committal attitude that marks other cognitive states gives way in judgment to a commitment which is thrust upon the mind. There is a felt compulsion in the acceptance of the reference in every genuine judgment.

Belief, as distinct from the other cognitive states, need not be self-conscious or reflective. While in each of the other cognitive attitudes the propositional reference is entertained as a suggestion, belief in its unreflective or non-inferential form contains no suggestion. Here the reference is accepted at once as holding of reality: there is no entertainment of a reference as holding good of a *possible* object. The reference is directed to an *actual* object with which we seem to be in personal contact.

When belief is arrived at after reflection, or inference, there is no such consciousness of immediate contact. For in such cases the reference is first entertained as a suggestion (which means reference to a possible object) and then accepted as holding of an actual. But whether the awareness of immediate contact is present or not, as soon as we accept the reference as holding of reality (i.e., something other than the act of reference and independent of, though not beyond, it)—we have the attitude of belief: and this may be described otherwise as cognitive acceptance or assertion.

2. By an assertion we mean a concrete mental state in both its existential and referential characters. The existential aspect is the act of *asserting* and the referential aspect is the proposition or *assertum*, while the referent is an object in its complex character. It would be wholly wrong to say that the proposition is the object of belief or assertion, though the propositional factor of an assertion may become the object of a different assertion. The proposition is an aspect of the asserting or judging attitude itself which is both existential and structural. The existential aspect is believing as part of the life-history of an individual mind, while the structural aspect is the propositional reference, the transitive factor which relates itself to the extra-mental object.

It is indeed extremely difficult to conceive of the transitive reference in isolation from the existential aspect of the act of belief. But this only shows that the proposition considered in itself is an abstraction and as such has no *locus standi* in the scheme of things. The proposition is not a separate entity, mental or physical. It may be described as logical because it is the result of logical analysis of the concrete judgmental situation. But it would be wholly wrong to consider it as possessing a "neutral" form of existence in between the physical and the mental, or partaking of the characters of both minds and physical objects.

The proposition is not a physical existent, as some people imagine : nor is it a psychical content, as others fancy. It is in a sense mental because it is an aspect of the judging act, its structural component. But we should on no account liken it to an idea in the sense of an image, or even in that of a non-descript content. We have an incorrigible tendency to spatialise mental states on the analogy of pictures or photographs. But the mind does not mirror or copy reality in any intelligible sense. It apprehends reality without the intermediary of any picture or transcript in all the forms of immediate knowledge,—perception, memory and introspection. Such apprehension is indeed communicable because it can be expressed in language by means of sentences. The indicative sentence expresses the judgment in its total integrity and may therefore be described as its verbal expression. But the proposition, which is an aspect of the judging act, should not be mistaken for its verbal expression that is none other than the sentence. The sentence that expresses a judgment asserts its propositional reference by means of verbal symbols,

3. This account of judment differs greatly from that given by Bradley and other idealists. For them judgment is the reference of an ideal content to reality which lies beyond the act of reference. The content may seem to be similar to what we have designated as the proposition. But the similarity is only too superficial. For while the ideal content of which Bradley speaks is a logical entity isolated from a mental image and attached to the real as a qualification, the proposition in our view is not an entity, nor is it cut off from a psychical image, nor again is it used to qualify the real which is the subject of the judgment.

The ideal content is invoked by Bradley in order to explain the mediational character of judgment and it is treated as a qualification of reality because, for him, all thought consists in an attempt to identify itself with Reality. And yet, strangely enough, the same content is regarded as an entity inasmuch as he could not explain otherwise the universal meaning that runs through a number of images. For us, however, judgment does neither try to identify itself with its objects (referents), nor does it seek to qualify reality in any intelligible sense. It is an apprehension of reality, which may otherwise be described as the acceptance of a reference to objects.

The Bradleyan view of ideal contents is based on Aristotle's theory of judgment which regards the predicate as always an attribute of the subject which is a substance. This theory has been responsible for the stagnancy of logic through ages and to it are due many of the faults of omission and commission in logical thought. Without further comments on the subject-predicate theory in its ancient or modern form, we will pass on to the analysis of the theory of judgment advocated by us. But as this stage it is necessary to distinguish our view from those of some other thinkers who also would retain the proposition as an essential factor of judgment.

4. Johnson regards the proposition as an entity "which preserves its identity unmodified, independently of all variations of assertive attitude and of personal and temporal reference." (*"Logic", Part I, p. 7*). "There is a single entity called the proposition that is the same whatever may be the attitude adopted towards it". (*Op. cit., p. 6*). We could allow such a description with a little modification, but what Johnson says next is staggering for us. All judgment is, in his view, "passing judgment *upon a proposition* proposed in thought". And this account is true not only of the reflective but also of the perceptual

judgments, for judgment is the unit of knowledge and perception does give us knowledge of things. There is indeed no harm in regarding judgment as the unit of knowledge, and that usage is too deeply rooted in English to admit of a modification in terminology. But the association of this logical term with the legal one (from which it is presumably derived) always suggests that it is *upon* something; and this may partly account for the dogma that every act of knowledge is to be viewed as a judgment *upon a proposition* proposed or suggested in thought. How are we, on such a theory, to explain the nature of immediate knowledge as exemplified in perception? Do we in such cases entertain a proposition first and then pass a judgment on it? Even if it is replied that both the proposal and the judgment occur simultaneously, are we to suppose that the *object* of knowledge is not a fact or existent, but always a proposition? Johnson reflects on the limited scope of the traditional Logic as dealing only with the developed forms of knowledge, and remarks that in his wider view, assertion is identical with *conscious belief* which has always the *proposition for its object*. (*cf. op. cit., pp. 5 f*).

We feel extreme reluctance to expatiate on minor defects; but since we stand for the recognition of the proposition as an essential factor of the knowledge-situation, we must distinguish our position from Johnson's in order to obviate possible misunderstanding. Johnson is aware that "the judgment is the more comprehensive or concrete term, since when seriously treated it involves the two terms thinker and proposition and, in addition, the occurrent and alterable relation that may subsist between them". (*op. cit., p. 2*). Is it not, then, surprising to hear that the proposition itself has two *aspects*, subjective and objective, and further that the "proposition is *related* subjectively to assertion" (and objectively to fact)? And to make confusion worse confounded, an analogy is drawn between the view of Bradley and Bosanquet and the present doctrine which asserts that "the relation of proposition to fact is the same as that of adjective to substantive". (*op. cit., p. 14*). How can a proposition, which is an entity, be the "characterisation" of another entity, though not subsistent but existent? Johnson fails to see that his assimilation of the proposition to the Bradleyan "ideal content" entails a coherence theory of truth, and not the eager acceptance of the correspondence theory by simply replacing the term "correspondence" by "accordance". It is impossible to regard the proposition as a *tertium quid* coming between the assertive attitude and the fact, — with the misleading title of "*object* of belief", — and at the same time to hold that the meaning of truth is "accordance with a certain fact", when there is no means of coming into direct contact with facts or reals.

5. Many other thinkers have realised the need for the proposition as an indispensable factor in the knowledge-situation, but the attempt to vindicate it has always given rise to confusion. Mr. Ushenko says that propositions "are needed as bearers of truth-value and as communicable units in discourse". ("*The Problems of Logic*", *pp. 205 ff*). The proposition, he says, is a "conceptual expression" which "bestows articulate form on our knowledge of things". It is conceptual because this articulation is a conceptualisation of what otherwise would be an undifferentiated tendency. The adequacy of conceptual articulation is the meaning of "truth", and therefore "nothing but a proposition can be true or false". The sentence cannot be the bearer of truth-value, because in abstraction from the conceptional meaning it is a series of squeaks, "which merely is or takes place as any other natural process that one cannot significantly tag with a truth-qualification". Similarly, a judgment cannot be "an object of truth value" inasmuch as it is a mental act and hence an event of nature. When we call a judgment correct or incorrect we only do so "by courtesy", i.e., "with reference to the truth of the proposition which the judgment either accepts or rejects".

The proposition, he continues, cannot exist as an independent entity, but only in the medium of thought. None the less, it is objective in the sense that it is independent of a "particular thought of a particular person". It is difficult to see what such a contention comes to. If the proposition cannot exist as an entity independent of thought, how can it exist independently of the particular thoughts of particular persons? Is Ushenko ready to introduce God as Thought in general for maintaining the objectivity of propositions? That would be a recrudescence of Berkeleyanism in the interests of the proposition. But Ushenko tells us in a footnote (*op. cit., p. 210*) that "the idea of recurring propositions is more intelligible than the idea of a proposition which persists outside thought in some mysterious field of reality". May we suggest that because of his loyalty to the proposition he is tossed between a conscious Conceptualism and an unconscious Platonism which is entailed by the acceptance of the independent status of the proposition?

He realises the close connexion between proposition and thought, and even *defines* the proposition as "the meaning or interpretation of the indicative sentence", but at the same time speaks of "the existence" of propositions and regards them as 'concerns', 'contents', or 'objects' of belief and judgment. This comes very near the position of Johnson, but Ushenko realises that the view of the proposition as an entitative existent forbids its entrance into the perceptual situation.

The denial of the presence of propositions in perceptual judgments, however, raises fresh difficulties of its own. If the proposition is defined as the meaning of the indicative sentence, perceptual knowledge must be regarded either as ineffable, or the sentence (by the way, what other kind of sentence, if not the indicative?) that "expresses" it must be considered an external tag with an indeterminate relation to the experience; and it would be meaningless to speak of perceptual judgments as true or false, since the proposition *alone* is the bearer of the truth-value. And yet, strangely enough—strangely, in view of his theory, but quite *naturally* in obedience to recognised *facts*—Ushenko after a consideration of various examples comes to the conclusion that "a perceptual judgment can be false" (*op. cit.*, *p. 216*). Surely, then, the proposition as the *sole* bearer of truth-value cannot be absent from the perceptual scene.

6. The admission of the proposition as an essential factor in knowledge need not and should not lead one to regard it as an existent or entity, "floating" or otherwise. And yet thinkers who advocate its cause seem always to have so regarded it. This is why the doctrine of the proposition has brought a hornets' nest about its ears, and whoever takes up its cause is suspected of hypostatising an abstraction. This accounts for the fact that even among those who accept it, all do not recognise its presence in perceptual judgments. We are, on the contrary, convinced that since all judgments without exception are liable to error, and since truth is the distinctive mark, if not the defining trait, of *every* piece of knowledge, the proposition must be held to be present in the judgmental situation as an inalienable feature. We may put it otherwise by saying that the nature of truth and falsity as characters of judgments cannot be explained without the admission of the proposition as their *structural* aspect or factor. The full force of this contention will be manifest in the sequel.

7. The unit of knowledge is a *true* judgment. "Knowledge" is not a neutral term: it signifies a veridical judgment. Hence the custom of describing judgment as the unit of knowledge is not very accurate, for a judgment may also be *false* and no false judgment is a unit of knowledge. Even the term judgment itself is vague and misleading.

As mentioned before, because of its kinship with the legal term, it is sometimes supposed to be passed *upon* the proposition entertained as a suggestion. It has the misleading tendency to turn the proposition into an entity, and is the root-cause of the confusion of ordinary logical statements with evaluative judgments. But there is an essential distinction between factual statements (which we call *primary*) and evaluative statements (which we call *secondary*). While the former are merely *about* objects, the latter are not only *about* but also *upon*. Prof. Mackenzie recognised this difference between factual and evaluative statements in his discussion of the nature of the *moral* judgment. "The moral judgment", he says, "is not simply of the nature of what is called a judgment in Logic. It is not merely a judgment *about*, but a judgment *upon*". ("*Manual of Ethics*", *p. 129*). We are not aware whether Mackenzie would extend the application of this distinction to other kinds of value-judgments. It is, however, part of our fundamental thesis that this distinction holds between factual statements and evaluative statements of *all* types.

Philosophers speak of truth, beauty and goodness as intrinsic values, but the discussion of values sadly neglects truth as one of the ultimate values. Even if it is viewed as one of the trinity, no effort is made to show its *likeness* to the other two forms of ultimate values. In logic and aesthetics we hear often of truth and beauty as values, but in these cases the term 'value' is used in a pragmatic sense, or simply in the sense of a quality or attribute. The term "value" has become very fashionable of late and is on every one's lips, but if one asks for a precise meaning attached to it, no answer is promptly forthcoming. If value means the useful, it is ultimate in no intelligible sense and the phrase 'intrinsic value' becomes meaningless. If it means a quality,—(which must be the meaning intended by those who speak of the truth-value of a proposition or judgment),—what would be its precise significance as applied to beauty and goodness? And what sort of qualities are they in that case and what is their objective status? Most often we hear enthusiastic utterances about values as things that count most in life and even as "ideals which are the most real things in the world". But what is the common element, if any, among the different uses of the same term, or does the word stand for different 'terms' in different contexts?

These questions are not so trivial as they may seem at first, nor can they be answered fully without considering the relation between value and judgments which are the acts recognising their presence. In particular, the term "value" as applied to logical judgments without discrimination conceals an important difference amongst them. All statements that are true are no ordinary logical judgments. Some statements dealing with truth are primary assertions or factual statements; others are secondary statements with an evaluative character. The distinction between factual and evaluative judgments holds, we say, even among what ordinarily go by the name of factual or logical judgments. Henceforth by a logical judgment we will mean a primary judgment which is factual and *only about*; and by a value-judgment we will mean a secondary judgment whch is *not only about but also upon*.

The recognition of this distinction even in the family of the so-called factual or logical judgments will remove, as we will show, many gratuitous perplexities in logic. This distinction is overlooked partly because of calling every judgment a "truth-claim". But though every assertion is true or false, all assertions are not "truth-claims". To say that all assertions are truth-claims is to over-intellectualise a process which is unreflective in its essence. Every assertion is the acceptance of a propositional reference, or, in other words, is the awareness of an object; but it is not proper to call it a truth-claim if in it there is no *reference to such a claim*. It is admittedly difficult to state the *differentia* of judgment, the quality that distinguishes it from doubt, questioning and supposal which are the other species of cognition. But no good purpose is served in the end by implying that in every judgment (assertion) we have, or make, a claim to truth. We put forward such a claim only in the case of secondary judgments of the *noetic* type (as distinct from the aesthetic and the ethical type). Here we have a genuine judgment in our sense, i.e., an assertion which is not only about but also upon. The judgment in question is passed upon the *act of assertion* and is a truth-claim in the strict sense of the term. Here we declare that a particular act of assertion is true (or false). Thus while a primary judgment or assertion is a cognitive act which accepts a propositional reference or is the awareness of an object, a secondary judgment or judgment proper is an evaluative assertion passed upon another act (which differs in the different cases of evaluative judgments). The nature of value-judgments will be discussed in the sequel.

8. Meantime, by an assertion we mean a concrete mental act in both its existential and referential characters. It is wholly wrong to say that the proposition is *the object* of belief or assertion, though the

propositional factor of an assertion may become the object of a different assertion. We will consider later the distinction between assertions which have for their objects factual situations and those that have for their objects logical and mathematical abstractions. But such a distinction (which has its own importance) does not prove that an act of assertion has for its object or referent the reference itself which is the proposition. The object of assertion is not its own referential character (or the proposition) but the referent which is a subsistent (=abstraction) or an existent (=fact).

There are differences of objects in different kinds of assertions and differences also in the propositional factor as regards its structure. But in every act of assertion we have invariably the existential element of asserting or believing, the referential element which is propositional, as well as the referent which is other than both the aspects of the act of reference, because it is the object referred to. We have spoken above of the proposition as the *assertum*, but if the *assertum* means something that is assertible by itself without all reference to objects, we will have no truck with it. The *assertum* for us in that case will be the object itself which is not a "thing-in-itself", but an *actual* or *possible* object of assertion in respect of *every one* of its qualities.

9. We are in a position now to indicate the bearing of the present theory of judgment on truth and falsity as meaningful terms in discourse. A sentence as such can be neither true nor false, for all sentences do not express assertions or the acceptance of propositional references. 'Truth' or 'falsity' can be legitimately applied only to the awareness of objects. A truth is a correct awareness of objects, while a falsehood or error is an incorrect awareness of objects. When we use truth and falsehood (=falsity) as abstract nouns, they stand for the qualities of correctness and incorrectness, respectively, of acts of awareness. Truth in the abstract, therefore, is not an entity which it is often supposed to be, but simply the quality of a concrete act of awareness of objects. It is not, however, an attribute of the proposition, or identical with it. Truth is a character of assertions of which propositions are aspects (and taken by themselves are sheer abstractions). An assertion is true when its propositional factor agrees with or conforms to the object. The assertion refers of course to the object, because the object *is* the referent, but reference and agreement are not the same. Reference is an *act* while agreement is a relation (other than an act). The act of referring may

be said to be a relation, but it is dynamic, while the conformity or agreement is not in any case a dynamic but a logical relation (which is timeless in the sense that time is irrelevant to it).

True, the act of reference which is asserting or judging has also been described as a transcendental relation which means that which is germane to the knowledge-situation and is essentially timeless. But this is due to a misunderstanding as to the exact nature of assertions. Cognitive reference is surely an act and it takes place in time. It transcends time in the sense that the object may belong to the past, the present, or the future. But the act is also *in* time, while the relation of agreement or conformity is essentially timeless. Considerations of time are wholly irrelevant to it,—which is not the case with the act of reference. It is of course easy to take up the verb corresponding to the noun "agreement" and say that the asserting agrees with the object and agreeing is a dynamic relation taking place in time. No such procedure would change the nature of the relation of agreement which is essentially logical.

The relation of agreement or conformity between the *proposition* and the *object* constitutes the truth of the assertion. The proposition is only one of the aspects of the act of assertion and is itself not an activity. *Its* agreement or disagreement with the object is a unique sort of relation with no analogue elsewhere in the mental or in the physical world. This is why it is so difficult to *explain* the nature of truth, though everyone seems to understand what it means. But it is not so easy to conceive it properly, as is shown even by great thinkers who define truth as coherence or verification. The difficulty is natural because of the uniqueness of the relation and one feels tempted not to call it a relation at all.

This would partly vindicate the view of those who refuse to call knowledge a relation at all, though involving relation as part of its nature. But while realists in general regard both the subject and the object (the two terms of the knowledge-relation) as wholly on a par with one another, those thinkers, with a bias for absolutism, suppose that the subject and the object are wholly different from one another in such wise that the subject may be conceived to remain in solitary singleness even when the object vanishes altogether as a referent. It is not clear what is gained by calling such an entity subject at all. For it cannot be said to have knowledge of any form, while subject is another name for the knower, the mind in its cognitive relation to an object,

10. Knowledge, by which we mean all awareness that is essentially communicable my means of language, always implies the duality of the subject and the object. This truth is enshrined in the teachings of Kant in spite of his superlative obscurity and it is also accepted, with varying emphasis, by Fichte, Schelling and Hegel. Bradley is emphatic on this point and this is his *net* charge against knowledge as incurably infected with error. We maintain that knowledge gives us truth or is correct awareness of objects, *because* of this duality; and we go even further in holding that not only knowing but feeling and willing are equally impossible without a duality of the self and its object, the agent that refers and the object that is referred to.

Without the referential character no mental state can be or exist in any intelligible sense. The denial of this peculiar duality, which is reference, would reduce mind to the status of a physical object, a cross-section of the world with no special claim to priority of position in what Alexander calls "the democracy of things". The failure to recognise the full significance of the referential character of mental states leads both the New Realist and the Absolute Idealist to identify truth with reality, as will be seen more fully in the sequel. Truth, however, is always a quality of assertions which are referential acts; while reality in the sense of the universe has of course truth *in* it, but is in no sense *one with* it. Minds are emergents and they may, for aught we know, be completely wiped out of existence by a cosmic cataclysm. In that case truth also, as the character of assertions made by minds, will be extinct. Whether such a storm will ever break out in the "vast driftings of the cosmic weather" it is idle to speculate here.

Meanwhile minds *are* and raise questions about the truth and falsity of their assertions, the success or failure of their commerce with reality. Whatever view we hold "in the end" as to the "ultimate" character of reality, that must not be of such a kind as to entail that *all* our judgments are true, or that *all* our judgments are false. Nor should it compel us to regard all of them as mere fictions, or—which is worse—as nonsensical. All such theories explain away the genuine *problem* involved in an account of the knowledge-situation.

CHAPTER III

PROPOSITION AND MEANING

1. The proposition has been described by us both as the structural aspect of a judgment and as the *meaning* of a sentence that expresses the judgment. But "meaning" is itself one of the most highly ambiguous terms in our vocabulary. Two recent writers have detected over a score of different uses of this term. (*cf. Ogden and Richards, "The Meaning of Meaning", pp. 186 ff*). And yet the concept of meaning is fundamental for logic or theory of knowledge. All discourse would be the ravings of a lunatic unless it were "meaningful". Logic as the analysis of thought embodied in language must discover the precise meaning of *meaning*.

The multifarious uses may be reduced to the following five pivotal senses, viz., (i) intention or purpose (ii) utility or value, (iii) causal correlate, (iv) definition or translation, and (v) symbolic reference.

But "meaning" in the sense of *mere intention* or purpose has no place in theory of knowledge. Purpose is indeed involved in most cases of knowledge, but knowledge itself is not a form of purpose. And when we speak of meaning as a factor in the judgmental situation we have in mind something different from purpose or intention. The sequel will indicate the proper relation of meaning to purpose without reducing it to the latter.

The use of "meaning" as a synonym for *value* is to be condemned, since it tends to introduce needless perplexity in the treatment of both meaning and value. The nature of value itself is discussed in the chapter on valuational judgments.

A cause or an effect is regarded as the meaning of the other because of a confusion between meaning and *implication*. Many thinkers believe that causation involves implication and this use of that term has a partial justification. But we hold this view to be radically erroneous, though causal infrence is admitted by us to involve an implicative relation among its constituent propositions. This, again, will be dealt with in a subsequent chapter.

Definition or translation is not itself meaning, but is the method of providing substitute symbols for the same meaning. What is known as "dictionary meaning" is really a synonym, i.e., a word having a more or less similar meaning or reference. This reference, which is symbolic, is indeed meaning proper, and the use of the term meaning in any other context is plausible only because that contains a semblance of reference.

Meaning as *symbolic reference* involves a cognitive state, a physical or mental object, and a verbal structure whether simple or complex. But different thinkers have focussed their attention on one aspect alone of this complex relation to the partial or total neglect of its other aspects. Subjectivists have reduced meaning to a purely mental state whether cognitive or conative; objectivists have identified it with existents or subsistents; and verbalists have equated it with a syntactical relation among merely verbal utterances. We can do full justice to the problem of meaning only when we have disposed of these one-sided doctrines.

2. Meaning is held by some thinkers to be a purely subjective affair, a complex image or a blend of images and sensations which are mental states representing the objects to which our thought refers. But the referential aspect is either entirely ignored, or else regarded as that of copying the objects thought about. The prototype of such views is found in Locke, Berkeley and Hume, all of whom try to equate images with ideas. But the copy theory goes against too many obvious facts that show a discrepancy between imagery and meaning, and leads logically to scepticism. James tried to modify it by locating the meaning of an image in its fringe, and Titchener developed it further by eliminating the copying function ascribed to images.

From the psychological point of view "meaning", says Titchener, "is always context. An idea means another idea, is psychologically the meaning of that other idea, if it is that idea's context". And context means "simply the mental process or complex of mental processes which accrues to the original idea through the situation in which the organism finds itself". Hence "meaning is, originally, kinaesthesis; the organism faces the situation by some bodily attitude, and the characteristic sensations which the attitude involves give meaning to the process that stands at the conscious focus, are psychologically the meaning of that process". (*"Experimental Psychology of the Thought Processes", pp. 175 f*).

Titchener does not indeed identify what he calls the psychological meaning with the logical meaning which is or involves objective reference. He merely insists that psychology as a study of the existential aspect of the mental states should not go beyond the psychic imagery. But a mental state, short of its objective reference, is hardly to be called mental as distinct from its physiological correlate. And such a point of view, when fully developed, leads logically to Behaviourism pure and simple. This would explain, by the way, why Russell, Ogden and Richards, who are in conscious debt to that theory, strive in their respective ways to reduce meaning to a blend of images whether viewed as copies or not of the objects of thought.

But whatever is true of psychology conceived as an existential and structural study of mind, for logic *meaning* is meaningless without the objective reference which is a distinctive character of cognitive states. Titchener had the candidness to confess that his account of meaning did not give us the whole truth about it. And yet thinkers like Russell, Ogden and Richards have striven to explain meaning completely in terms of images and sensations viewed as intransitive states, or pictures of things.

3. Russell holds that meaning belongs to words and images both of which are closely related. It is probable, he suggests, that the image is the original source of meaning, but that "by a telescoped process, words come in time to produce directly the effects which would have been produced by the images with which they were associated". (*"The Analysis of Mind", p. 206*). The meaning of an image consists in its resemblance to the object of which it is the copy. This resemblance is not one of similarity in structure but of causal efficacy : the effects of the image are similar to those of the object on the person who perceives and thinks of it. The meaning of a word is constituted solely by its causal efficacy, because a word does not resemble the object for which it stands. Hence the central conception of meaning here is the similarity of causal efficacy.

But it is obvious that the same image may cause different reactions in different persons and in the same person at different times. Hence if meaning is equated with emotional and other responses, it becomes a purely subjective affair such as the pragmatists contend. But all causal and pragmatic accounts of meaning commit the fallacy of *hysteron proteron* in trying to explain meaning by the effects it produces, as the effects are themselves explicable by the objective reference that goes beyond the existential aspect of a cognitive state.

The logical conclusion of this brand of psychologism was drawn by Joachim in a trenchant article. (*"Mind", 1920 p. 412*). Speaking of Russell he argues: "When he says, 'Antony loved Cleopatra', he means—or at least the word-proposition means—that an Image loved an Image. It describes the unholy passion of one event inside his skin for another.........It 'means' that two 'purely mental' entities were—or are—consumed with lust for one another". No further comments are needed to expose the absurdity of the above theory of meaning.

It is therefore useless to discuss in detail the view of Ogden and Richards who merely carry one strand of Russell's thought to its logical conclusion in the direction of Behaviourism. (*cf. "The Meaning of Meaning", pp. 50, 73, 81, etc.*). Indeed the authors base their causal view of meaning on "the theory of the conditioned reflex due to Pavlov", from which "much may be expected" when it "has been further developed". (*Ibid, p. 66*). Meantime it is pleasant for us to reflect that such an *expectation* cannot itself be cherished without meaning in the sense of an objective reference which is not a blend of images or of their physiological concomitants.

The copy theory of thought dies hard, for it assumes protean forms in the explanation of meaning and truth. But, in fact, the alleged copies called images are creatures of fancy, superstition and a vicious spatialisation of mental processes which are through and through dynamic in character. The same pernicious belief in the reality of mental snapshots led Bradley to derive meaning from a vivisection of images and embrace in his earlier years the view of floating ideas. And yet he had insisted most of all on the transitive reference that distinguishes meaning from its existential matrix known as the image.

4. Bradley describes meaning as idea or ideal content, and regards it as the peculiar characteristic of signs or symbols. While every fact has the twin aspects of existence and content, only signs have a third aspect which is meaning or reference. Meaning is "a part of the content cut off, fixed by the mind, and considered apart from the existence of the sign". Logical signs are ideas, not in the sense of psychic images, but in the sense of universals other than the particulars

of images. Each idea, he says, "exists as a particular fact, and with particular qualities and relations. It has its speciality as an event in my mind. It is a hard individual, so unique that it not only differs from all others, but even from itself at subsequent moments. And this character it must bear when confined to the two aspects of existence and content. But just so long as, and because, it keeps to this character, it is for logic no idea at all. It becomes one first when it begins to exist for the sake of its meaning. And its meaning, we may repeat, is a part of the content, used without regard to the rest, or the existence........The 'idea' has here become an universal, since everything else is subordinate to the meaning". Hence "the 'idea', if that is the psychical state, is in logic a symbol. But it is better to say, the idea is the meaning, for existence and unessential content are wholly disregarded. The idea, in the sense of mental image, is a sign of the idea in the sense of meaning". (*"Principles of Logic", Vol. I, pp. 5 f*).

The belief in universal ideas, however, Bradley is careful to point out, "does not involve the conviction that abstractions exist, even as facts in my head". For "the mental event is unique and particular, but the meaning in its use is cut off from the existence, and from the rest of the fluctuating content. It loses its relation to the particular symbol; it stands as an adjective, to be referred to some subject, but indifferent in itself to every special subject". (*p. 6*).

But how can the logical meaning be carved out of a psychical fact, and how can we re-attach it in judgments to trans-subjective facts? If meaning is identical with the content of the image or a part of it, it cannot of course be "the beast between the shafts" in the particular case cited by Bradley. But how can we literally cut across the mental event and telescope one part of it into the heart of reality? When I assert that "this horse is a mammal", no scrutiny, however careful, will reveal a process of first discerning "mammalianness" as a quality of a mental state of mine, of then detaching it from that state and, finally, of transferring it to something entirely different. Obviously, then, Bradley cannot have meant that meaning is a surgical operation performed upon mental states, and transferring a dissected part to reality and qualifying it by means of this loosened universal. All this is a rhetorical mode of speaking. He could not have meant that every time we make a judgment we have a series of images, or an image, to which we attend first, then isolate a slender portion of the imagery and then re-attach it to a trans-subjective reality. For in that case, his statement that we perceive that the union set up in a judgment is both independent of and beyond the act of judging would be preposterous. Judgment would be truth-making, such as the pragmatist speaks of. But Bradley is insistent that "there is for us no truth, we may say, save that which discovers itself to us". (*"Essays on Truth and Reality", p. 85*). Hence he cannot possibly mean that an aspect of the psychical state is itself thrust upon the actual object. (*Contrast : Dawes Hicks, "Critical Realism", pp. 161 f*).

The hyperbolic emphasis on the active role of mind in knowledge is a result of his impatience with the associationist thinkers who reduced it to a mere collection of mental states and dispensed with the universal in their accounts of meaning, judgment and inference. Bradley, on his part, was all out for the universal and declared meaning to be a universal fundamentally different from a particular image and yet somehow connected with it. This is why he calls it an ideal content and makes it partake of the characters of both a mental state and a logical entity. A logical entity is simply an abstraction of thought and therefore also a universal. But our ideas often relate to concrete things which seem to be "hard particulars". For Bradley, however, there is no *final* distinction between particular things and universal ideas, because the existential aspect of things is unimportant and reducible to characters.

But he forgets that there is still a gap between ideas and qualities, even though both are viewed as universals. The gap tends, however, to be filled up when we note that for Bradley all thought is an attempt to identify oneself with the object thought about. This is why the judgmental approach to reality is supposed to find its fulfilment in the negation of thought. The thought that is perfectly true is the same as Reality and therefore ceases to be thought.

5. Blanshard has suggested that the ideal content of Bradley is bi-lateral in character : for, taken in one context it is part of a mental series, and taken in another context it is part of the physical world. He himself develops this view modified in the light of Royce's discussion of "internal" and "external" meaning. Meaning, says Blanshard, should not be regarded as something fundamentally different from mental images and physical things. It is a sort of hybrid in between the physical and the mental. For meaning or idea is the potential of which the object meant or thought about is the actualised form.

"Thought in its essence", he says, "is an attempt to attain, in the sense of achieving identity with, a special end of its own. The relation between idea and object must be conceived teleologically, as the relation of that which is partially realised to the same thing more fully realised. When we say that an idea is of an object, we are saying that the idea is a purpose which the object alone would fulfil, that it is a *potentiality* which this object alone would actualise, a content informed by an impulse to *become* this object. Its nature is hence not fully intelligible except in the light of what it seeks to become. Mind, in taking thought, attempts to pass beyond its present experience to what it would be but is not yet, and so far as it has the thought of this end, it already *is* the end *in posse*. *The idea is thus both identical with its object and different from it.* It is identical in the sense in which anything that truly develops is identical with what it becomes. It is different in the sense in which any purpose partially realized is different from the same purpose realized wholly". (*"The Nature of Thought", Vol. I, p. 473*).

There is no doubt that this new interpretation is extremely ingenious as a vindication of the idealistic theory of meaning. But is it acceptable as an account that explains the difficulty involved in the situation? The answer must be an emphatic denial. Once you *assume* that thought is an attempt to *identify oneself with the object of thought*, the doctrine of meaning is an inevitable consequence which you cannot reject. If knowledge is an identification of the subject with the object, then it is, of course, true that the idea is a potentiality of which the object is the actualisation, an incomplete purpose of which the object is the complete embodiment, an identity-in-difference, and all the rest of it. "The child is father of the man", a potential man, an undeveloped adult, an identity in difference, and many other things besides, because the child and the man have an identity of being or reality or existence, or whatever else you call it.

"Self-identification" is only a figurative expression, literally exemplified in what is known as a mystic trance or ecstasy. But Wordsworth, the poet, was more philosophical than many philosophers, when he declared that "in such a state of mind *thought was not*", it "expired". Thinking or knowing is impossible without the duality of the subject and the object. Hence the most successful thinking is not a removal of that duality by a mystic "communion", but a more pronounced revelation of the object always standing over against the subject or knower. Knowledge or judgment is not reducible to the concepts of being, becoming, making, taking, or even the category of Relation.

6. Alexander regards meaning or objective reference as propositional, but neutralises the value of his conception by placing the proposition alongside of existents. He agrees with the New Realists in viewing knowledge as a dyadic relation of "compresence" that obtains only between two physical objects. But while they consider the two terms of this relation to be exactly similar, Alexander tries to do justice to the dynamic aspect of the cognitive state. Judgment is regarded by him as a mental act which has a proposition for its object or referent. But though the proposition is declared to be the bearer of truth-values, it is identified with a fact or existent.

Thus he recognises the necessity of the proposition as the meaning as well as the bearer of truth-values of judgments, and yet his realistic outlook forces him to reduce it to an existent. In his own words: "The propositions themselves which possess the character of truth are real facts contained within the reality investigated, and when their truth is disregarded, they are not different from reality". Further: "propositions, like other *cognita*, are perspectives of the world, and when they are true are really in it, and in the places where they pretend to be". (*"Space, Time, and Deity", Vol. II, pp. 253 f*).

But if perspectives are viewed as parts of objects or existents, they cannot be equated with propositions which are bearers of truth-values. Facts simply are: they are neither true nor false. Further, propositions even when they are bearers of falsity are not unreal, as Alexander indirectly suggests. In fact, however, propositions are bearers of truth-values not in the sense that they are themselves true or false, real or unreal, but in the sense that a certain relation between them and facts makes the judgments that contain them true or false. A proposition is but the structural aspect of a judgment, and it is the conformity between this aspect and the referent that makes the judgment true, gives it the truth-value. And it is the propositional reference which is the meaning contained in a judgment.

The fact or referent is the object meant, while referring is meaning as an act, but the proposition or reference stands for the bi-polar relation that connects the subject with the object. This relation is, as such, an abstraction: for it is only one aspect of the concrete cognitive act which involves other elements too. It can be best understood when we consider the indicative sentence that expresses the judgmental act in both its existential and referential aspects.

7. Some have contended that the proposition as the meaning of an indicative sentence is "a would-be fact......objectively real though it does not exist in the way that natural objects exist". But this implies a strange view of reality, and no criterion is given by means of which one would determine what things are real in this non-empirical sense. If propositions by themselves are regarded as real entities, they must be assigned a Platonic sphere in which to dwell and yet enter the sensible world on the occasion of every judgment made by mortals. If such a view appears fantastic, the objectivity of propositions as integral entities would require us to place them alongside of existents.

The above view comes very near Blanshard's that meaning is the potential of which the object meant is the actualised form. If meaning is identified with the mental act, such a position can be maintained only by those who regard all reality as mental. If, on the contrary, meaning is viewed as a logical factor involved in thinking, the view that it is a would-be fact can be upheld by one who reduces all things to "an unearthly ballet of bloodless" abstractions. The New Realist places propositions or meanings in the midst of existents, and welcomes the view of a world which has room in it for all sorts of frictions and fictions—collectively known as facts! This is the *reductio ad absurdum* of hypostatising abstractions.

8. A reaction against these ways of thinking has led the Logical Positivists to define meaning exclusively in terms of symbols without reference to the things they symbolise. They hold that it is impossible for sentences to refer to facts. Thus Prof. Carnap says that all that is necessary for the specification of a language is an account of its formation and transformation rules. The *proper* sentences of the language are to be formed in accordance with the "formation rules" that determine specific combinations of symbols; and the derivation of such sentences from one another is guided by the "transformation rules". Both the sets of prescribed rules are purely *formal* in character, so that there is "no reference to the meaning of the symbols (for example, the words) or to the sense of the expressions

(e.g., the sentences), but simply and solely to the kinds and order of the symbols from which the expressions are constructed". (*Carnap, "The Logical Syntax of Language", p. 1*).

A distinction can, none the less, be made between *a priori* and empirical sentences, the latter containing a special class called "observation", "basic", or "protocol" sentences somehow more intimately related, perhaps, to facts than the other sentences. But this supposed privilege of protocol sentences turns out to be illusory, for they, too, are constructed in accordance with *formal rules*—the term "protocol" suggests that,—not with *facts or existents*. The "truth" or "falsity" of such a sentence depends solely on the possibility of its being incorporated in a given system of sentences. But if so, the protocol sentence is *basic* in no intelligible sense and this is admitted in a roundabout way. Even when a *hypothesis* "proves to be logically incompatible with certain protocol sentences, there always exists the possibility of maintaining the hypothesis and renouncing acknowledgment of the protocol sentences". (*op. cit., p. 318*). Clearly, then, there is no virtual distinction between a protocol sentence and a hypothesis, both being mere expressions of possibilities, not of actualities or facts.

The derivation of sentences from one another is only a "translation of words", and the so-called basic sentence does not refer to a fact, is not really observational—even though it is got by the method of "ostensive definition". Without all reference to trans-verbal occurrences, the ostensive definition is, as Carnap recognises, only a translation of words. Hence to define, e.g., "elephant" *ostensibly* is simply to lay down the rule of *translation* or transformation that "elephant'=animal of the same kind as the animal in this or that position in space-time". (*"The Unity of Science", p. 39*).

It is true that children are taught the meanings of words in some such fashion, but such a "definition" would not be intelligible to them if they could not refer to actual facts. For at the time I formulate such a definition the object may not be present before our senses and the child may not have seen any such object before. How is he, then, going to know what the word refers to or indicates? When the object is present before us the definition serves its purpose, but this is possible only when both of us can refer to the identical object which is other than ourselves or the words we utter. The meaning of what Mr. Russell calls "object-words" presupposes a trans-verbal reference, and the same is true of all other words,—the only distinction being that the referent of the "object-word" is the object of an *actual* perception when the word is learnt for the first time. But how can the logical positivist, who admits no trans-verbal reference to be either possible or necessary, speak of an *observational*, as distinct from an *a priori*, or hypothetical, sentence at all ?

Thus the logical positivist regards sentences as self-contained units in respect of their meaning. It is indeed strange that an attempt to eliminate the supposedly "transcendent entities" of propositions should have converted empiricism to apriorism of an extreme type. One does not become an empiricist by simply giving a new interpretation to the terms "experience" and "observation". What is called experience or observation in this school of ultra-pragmatism is a mere study of grammatical forms by omitting all reference to the facts that language tries to symbolise. On such a theory communication becomes impossible not only between different "culture-circles" but among members of the same circle. No one can appeal to his "neighbours" to remove the "ambiguity" of the different systems of utterances entertained by himself. Every logical positivist is therefore an exile playing at a game of patience with verbal cards.

9. Mr. Ayer identifies meaning with verifiability and rejects "metaphysical" or unverifiable sentences as nonsensical or "literally senseless". (("*Language, Truth and Logic*", *p. 19*). He thinks that meaning is no relation at all, but simply an empirical fact. ("*Foundations of Empirical Knowledge*", *pp. 93 ff*). The introduction of the proposition for the solution of the alleged problem of meaning is superfluous, because there is really no problem to solve. "We cannot", says Ayer, "find the other term of the relation of 'meaning', because the assumption that meaning is a relation which somehow unites a symbol with some other unspecified object is itself erroneous". (*op. cit., p. 97*). And it is equally unnecessary to invoke propositions for being "the objects of the various activities of the understanding". These activities, too, are not relations and as such they do not require any objects at all. "There is no one thing that people believe, any more than there is one thing that all symbols mean". The only way of determining the meaning of symbols is, in the end, the method of ostensive definition, though in most cases the meaning of the sentence can be explained by giving examples.

Ayer differs from logical positivists in recognising the suggestion of an appeal to observable facts. But unlike Wittgenstein and Russell he refuses to regard meaning as a causal relation, or as a relation of "structural identity". We have already seen what Russell means by causal efficacy. Wittgenstein regards the sentence as a *picture* of reality. "In the picture and the pictured", he says, "there must be something identical in order that the one can be a picture of the other at all. What the picture must have in common in reality in order to be able to represent it after its manner—rightly or falsely—is the form of representation. To the configuration of the simple signs in the propositional sign corresponds the configuration of the objects in the state of affairs. In the proposition there must be exactly as many things distinguishable as there are in the state of affairs which it represents". (*"Tractatus Logico-Philosophicus", Propositions 4.01, 2.161, 2.17, 3.21, 4.04*).

This crude form of the correspondence theory applied to meaning is as unsound as when it is applied to truth. Language does in a way represent reality, but that representation is not reflecting or mirroring it, but only indicating or referring to it. It is this reference that is present in both true and false sentences and makes them meaningful. The above view makes most knowledge incapable of being expressed in language, for *verbal* symbols are in the vast majority of cases (except perhaps in the case of onomatopoetic words) no structural copies of the facts they represent. Such a theory also ignores the fact that sentences may be false as well as true; it must regard every meaningful sentence as true, which is absurd.

It is the reaction against some such theory that must have led Ayer to maintain that, though meaning involves "the suggestion of an appeal to the observable facts", it is not a relation at all. He does realise that if a language is to be used as *language*, i.e., for purposes of communication, it must also be characterised by non-formal rules which connect some of its symbols with observable states of affairs. "What is not necessary, however, is that a symbol, the use of which is determined by such a non-formal rule, should have any further connexion with what it symbolizes beyond that which is constituted by the existence of the rule". (*"Empirical Knowledge", p. 107*). Apart from the suggestion that language is wholly arbitrary in its origin and its connexion with thought very loose—a view we have found reasons to reject—Ayer forgets that the rule in question does not "connect" *particular* occurrences, symbolic and symbolised, with one another, but the "families" or classes to which such occurrences belong. It is this identity of reference which is the essence of meaning and otherwise describable as a propositional reference. It is what Ayer himself calls "the suggestion of an appeal to facts", or "a connexion of symbols with observable states of affairs". Meaning is not identical with facts, but a reference to them, and as such it is unlike any other relation that is observed to hold among mental states themselves, or among physical objects themselves. Hence we have called this relation propositional reference in order to show its unique character. It would, however, be wrong to isolate the referential function of sentences and hypostatise it, as most, if not all, of the advocates of the proposition seem to have done. The moment we treat it as a separable entity we invite scathing criticisms which cannot be brushed aside as either unsound or irrelevant.

10. The proposition itself is not, however, the whole meaning of the indicative sentence that symbolises a judgment. The judgment, as mentioned already, has both an existential and a structural aspect. The proposition is simply this structural aspect, while the existential aspect is a belief or act of assertion. The "finite" verb denotes the act of asserting while the other words connected by rules of syntax stand for the proposition. Thus in the judgment "S is P", "is" symbolises the assertive act, and "S being P" symbolises the propositional reference. But just as it would be wrong to identify the mental act with the verb that stands for it, it would be equally incorrect to equate the syntactical structure with the proposition, as some people have tried to do. For the proposition as reference is transverbal and makes the verbal structure a meaningful symbol as distinct from a physical occurrence.

Different sentences that contain an identical proposition symbolise the same judgment if the finite verb stands for the same assertive attitude as well. The mere presence of the same propositional reference in two or more sentences would not make them equivalent unless the assertive attitude were of the same form (i.e., affirmative or negative, as the case may be). Thus two sentences are equivalent only when the judgments they express are exactly similar. The epistemic or existential aspect of every judgment is, however, unique, and the resemblance between two judgments is explicable by their propositional references which must be the same. Two judgments of which one is affirmative and the other negative cannot be similar even in respect of their structural factors. (This will be shown in the sequel). So, the equivalence between two indicative sentences is due to the propositional aspects of the judgments symbolised by them.

Hence, though the meaning of an indicative sentence is strictly the judgment of which it is the expression, we may regard the proposition as the meaning because that alone is the common element among equivalent sentences. Meaning in this case is an identity of reference, and it is this identity that makes it possible for us to communicate with one another and understand each other's utterances. A proper understanding of another's sentence requires us to perform the same mental act of which the sentence claims to be an expression. And since no judgment can be repeated twice nor be transmitted from one mind to another, communication needs the help of the identity of reference which as meaning is sharable by different persons.

11. The identity of reference means an identical reference, which again involves reference to an identical element in the referent. A series of equivalent sentences have the same meaning because all of them refer to an identical proposition symbolised variously in the different sentences. The symbols vary from sentence to sentence, but the object symbolised is always the same and this is what makes the sentences equivalent to one another.

While the meaning of a sentence lies in the proposition it symbolises, the meaning of a word derives from the thing it symbolises, the term "thing" being used in the widest possible sense. But this thing, too, must contain an identity of reference, i.e., involve an identical element whether recurrent or continuant. Thus every word refers to a class or an individual, the former of which involves an identity of kind or recurrent and the latter involves an identity of being or continuant. The meaning of the word needs in either case an identical element, which makes it possible for all of us to use the word with understanding and not perform a vocal or a manual exercise alone.

If the meaning of a word seems comparatively simple, the meaning of a sentence is somewhat complex. But that is as it should be. A sentence is made up of words connected by rules of syntax, and the referent of the sentence, unlike that of most words, is a proposition which is itself a reference. None the less, when we say that a word refers to an object, that is only a figurative expression: for nothing but a mental act can refer to anything. It is not the word that of itself refers to an object : it is we who refer to objects and use the word as a symbol for denoting those objects. Hence the meaning of an isolated word can be determined only by the help of propositional reference which is meaning in its integral form.

12. A propositional reference is accepted or believed in judgment which is the central form of the cognitive response of the mind to its environment. Words, sentences and meanings are fully intelligible only in the context of the total situation of knowledge.

Epistemological Implications from Kant's Categories

Epistemological Categories

CHAPTER IV

CATEGORIES AND CONCEPTS

1. No discussion of knowledge or judgment is possible without a presupposition, explicit or implicit, as to the nature of the categories. But the traditional logic invested them with a halo of peculiar dignity and authority, as a result of which they were rarely brought into fruitful co-operation with the mundane concepts of science and everyday life. Aristotle recognised their importance in the logical scheme, and yet he placed them apart from the general run of ordinary concepts.

The word "category" means "*predicate*", and Aristotle regarded the categories as "kinds of predicate". The categories are ten in number : Substance, Quality, Quantity, Relation, Place, Date, Action, Passivity, Position and State. The doctrine of the categories is nowhere established but is assumed in all his works, though the list is often curtailed by the exclusion of Position and State. Evidently, Aristotle came to realise that these two were not ultimate, i.e., further unanalysable concepts.

But how can all the categories be "kinds of predicate", when the first is Substance, which is regarded by Aristotle as always the subject and never the predicate of a judgment ? The fact is, his use of the term substance is not quite unambiguous. The central conception is indeed that substances "are not predicated of a subject but everything else is predicated of them". (*"Metaphysica", p. 1017b, Vol. VIII of "The Works of Aristotle", edited by Smith and Ross*). He makes a distinction between *primary* and *secondary* substances, the former being concrete *individuals* and the latter being *genera or classes* which cannot exist apart from primary substances and are predicable of them. The secondary substance is the essence or universal ; and the universal, he says, cannot be regarded as a genuine substance, because "no common attribute indicates a 'this', but rather a 'such' ". (*op. cit., p. 1038b*). Hence the true substance (with a solitary exception in the case of God) is a concrete individual which is always the subject and never the predicate of a judgment. But the *general idea* of substance may become predicate in a judgment (e.g., "Socrates is a substance") and hence "the categories are a list of the widest predicates which are predicable essentially of the various nameable entities, i.e., which tell us what kind of entities at bottom they are". (*Ross, "Aristotle", p. 23*).

2. This doctrine of categories is based partly on linguistic considerations and partly on the frankly representative view of knowledge upheld in the "*De Interpretatione*" (16a7). Here Aristotle speaks of the "affections of the soul" as "likenesses of things", and describes judgment not as the apprehension of a connexion in reality but as the establishment of a connexion (or division) between these affections, also called "concepts". This crude representationism does not, however, embody his best thought on the subject. In the "*Metaphysica*" (*1051b*) he recognises the dependence of thought on *reality*, though displaying here at times the opposite tendency to identify truth and falsity with being and non-being. "The terms 'being' and 'non-being' ", he says, "are employed firstly with reference to the categories and secondly with reference to the potency or actuality of these or their nonpotency or non-actuality, while *being and non-being in the strictest sense are truth and falsity*. ("*Metaphysica*", *1051b*).

It is indeed extremely difficult to propound a *correspondence theory of truth* without falling either into the Scylla of subjectivism or into the Charybdis of objectivism. And yet the essence of truth seems to be some sort of correspondence between thought and reality, though we cannot *define* truth in clear-cut terms. The actual relation, which constitutes the essence of correspondence or accordance, is, as Dr. Ewing says, "unique and irreducible", and in *particular* cases "we know perfectly well what it is.......since we always understand what is meant by a judgment being 'true of something' ". ("*Idealism*", *pp. 137 ff*). Hence it is that no proponent of the correspondence theory has been more successful than Aristotle, whose statement expresses, so to say, the birth-pangs of the theory. He "defines" the true and the false in the following manner: "To say of what is that it is not, or of what is not that it is, is false; while to say of what is that it is, and of what is not that it is not, is true; so that he who says of anything that it is, or that it is not, will say either what is true or what is false; but neither what is nor what is not is said to be or not to be". ("*Metaphysica*", *p. 1011b*).

3. Hence the categories are not only "kinds of predicate" but also "kinds of being". But all of them are not on the same footing.

For while the substance as a concrete individual is a self-existent, other "modes of being" are modifications, so to say, of the substance and as such have no independent status. But such a description is misleading if it suggests that the substance can ever exist unmodified. Some categories represent *accidental* modes of being, while the category of quality stands for the *essence* or universal. But there is no substance that is without a quality, for qualities are the *essence* of the substance. This shows the fundamental difference of Aristotle from Spinoza who thought that the substance could exist unmodified. For Aristotle the "this" and the "such" are indissolubly bound together—the "such" representing the essence, form, or universal, all of which are synonymous terms. "The primacy of the individual is", as Prof. Ross says, "one of the most fixed points of Aristotle's thought", and the individual is the existent as also the object of knowledge, the ultimate subject of judgment. But the influence of Plato was responsible for his accepting quality as second in the rank of categories, and regarding all judgment as essentially of the substance-attribute form.

This doctrine has exerted tremendous influence on the history of philosophy,—Spinoza, Leibniz, Bradley and Bosanquet all subscribing to it according to their own lights. But none of them saw that for Aristotle the *other categories,* too, were *modes of being,* not to be treated as illusory, or even reducible to substance and quality. In a sense, however, these seem to be fundamental as involved in all knowledge, which is characterisation of reality; but this sense, we contend, is best conveyed by regarding judgment as the awareness of an objective reference or the acceptance of a propositional reference to reality. Such awareness is not secondary to a simple apprehension of reality or of concepts, a view silently accepted by Aristotle. (*cf. Morris, "Idealistic Logic"*). For us, however, judgment is the primal and primary form of genuine knowledge which is always communicable by means of linguistic symbols.

The Aristotelian categories, then, "present a logical, but they present also a real distinction : i.e., a distinction in the nature of the reality about which we think, as well as in our manner of thinking about it". (*Joseph, "An Introduction to Logic", p. 48*). The emphasis of Aristotle's view, however, falls definitely on the *objective* side of thought. Indeed all thinkers prior to Kant had conceived the mind to be passive in the judgmental situation. (This is true even of Leibniz who insisted most of all on the dynamic character of

Passive

reality). Some form of activity was recognised as involved in the formation of *general concepts;* but both rationalists and empiricists regarded the mind as led by the nose, as it were, in the rest of the process of coming to know.

4. It was Kant who for the first time insisted that judgment is the fundamental as well as the primitive form of all knowledge, and that the formation of general (=generic) concepts is only a secondary affair made possible by a series of judgments. Thus the centre of gravity is shifted from the concept which was endowed by Socrates with a special importance. This importance, to him, was mainly *methodological*: but the Aristotelian Logic came to view it as *epistemological*, and hence the activity involved in synthesising "concepts" in judgment slipped into the background. Kant rescues activity from its humble position in the judgmental scene and places it in the limelight. Activity, he holds, is essential to all knowledge, and it is wholly wrong to suppose that the mind merely mirrors an independent reality. Instead of the mind conforming to Nature in knowledge, it is Nature that conforms to mind. The mind legislates for Nature which is made, though not created, by the understanding. This is his Copernican revolution in the history of philosophy, the significance of which is not always estimated properly and was not clear even to Kant himself.

All knowledge, says Kant, is judgmental and consists in categorising, i.e., interpreting the materials of sensations, arranged in the warp and woof of space and time, by means of the categories. The categories are ways of synthesising the unrelated materials supplied by the things-in-themselves. And the resultant knowledge is not of *objective* reality, but of reality as it appears to human minds, of phenomena as opposed to noumena. There can be no knowledge of things-in-themselves, though their nature is revealed to faith or Practical Reason. Knowledge, which is a function of Theoretical Reason, is judging or categorising and involves both perception and conception. Concepts without percepts are empty, while percepts without concepts are blind. The categories are "*pure*" concepts as distinguished from ordinary concepts generated by experience, and they are the pre-conditions of there being any experience at all.

Kant

5. Kant gives a list of twelve categories, arranged in four groups, viz., of Quantity, Quality, Relation and Modality, and these are "*all* pure concepts of synthesis that the understanding contains within

Kant

itself apriori". ("*Critique of Pure Reason*", *tr. by Kemp Smith, pp. 113 ff*). Kant praises Aristotle for inquiring into these primal concepts, but criticises him for "merely picking them up as they came his way". His own doctrine, based as it is on a table of *judgments*, is free, he thinks, from the various defects he finds in Aristotle's list. He then attempts to *deduce* the categories and establish their indispensable role in the knowledge-situation. But in spite of Prof. Paton's attempted vindication (in "*Kant's Metaphysic of Experience*"), the transcendental deduction is only a long-drawn-out apology for viewing the categories as *our* ways of knowing *empirical* objects. (*cf. Prichard*, "*Kant's Theory of Knowledge*"). It is neither possible nor desirable to attempt here an elaborate discussion of Kant's position. Suffice it to say that his phenomenalistic position is inextricably bound up with a conceptualistic view of the categories or pure concepts. Besides, his voice is often of a subjectivist, and it is at times difficult to see how he can have succeeded in refuting 'idealism', which generally means representationism to him.

Kant.

Anyway, the things-in-themselves are, after all, the genuine realities and though they are unknown and unknowable, Kant would not have regarded the assumption of their existence as an excrescence of his system. It is often forgotten that this is precisely what makes his position phenomenalistic. Realities in their nature are unknowable but not unthinkable, and they must be thought as *somehow*, though we do not know *how*, related to appearances. This mixture of dogmatism and agnosticism reappears in Bradley with a little more content on the dogmatic side, but while the phenomenalism of Kant is positive, that of Bradley is negative and hence the latter seeks solace in mysticism. But mysticism was foreign to the temperament of Kant, whose view of *faith* as an insight into the nature of reality is yet intellectualistic because of its moorings in a genuine empiricism. None the less, an over-emphasis on the activity involved in knowledge compels him to declare agnosticism as his last word on the relation betwen knowledge and reality.

Hegel's

6. Hegel rejected the things-in-themselves as useless appendages and eliminated sensibility as a distinct faculty functioning alongside of the understanding in the knowledge of reality. "Thought is not a mere opposite of sense: it lets nothing escape it, but, outflanking its other, is at once that other and itself". And thought is true "in proportion as it sinks itself in the facts". Reason and reality, then, are identical and hence the categories are at bottom ways of "defining"

the Absolute. "Common fancy puts the Absolute far away in a world beyond. The Absolute is rather directly before us, so present that so long as we think, we must, though without express consciousness of it, always carry it with us and always use it". (*"The Science of Logic", tr. by Wallace, p. 50*).

The dialectic is not a mere systematic account of the ways of thinking, but of the objects of thought at the same time. The categories "unfold themselves" and truth is nothing but "the agreement of a thought-content with itself". (*op. cit., p. 52*). This is the coherence theory of truth already presupposed by Kant, accepted explicitly by Hegel and developed later on by the Absolute Idealists who work out its doom by putting up a barrier between thought and reality the foundation of which was laid by the originator himself.

7. Anyway, the Hegelian doctrine of categories emphasises their *ontologic* character, and such also is the view of Alexander who regards categories as "the pervasive features of *all* things". (*cf. "Space, Time and Deity", Vol. II*). Alexander is at one with Hegel in regarding the categories as pervasive (or "universal" in the strict sense), but unlike Hegel's all his categories are *spatio-temporal*, because they are modifications of Space-Time which is the fundamental stuff or matrix of all things.

The similarity of Alexander's fundamental position to the Theory of Relativity is a matter of common knowledge. But it is not so well known, we think, that his position has a surprising kinship with the Aristotelian. Once you drop out the Prime Mover (which as *pure* form really runs counter to the whole tenor of Aristotle's thought), or rather, isolate its efficient and teleological functions, and you arrive at the Space-Time matrix and the Deity of Alexander without much trouble on the way. Both Aristotle and Alexander insist on the priority of motion and its indissoluble union with space and time. But while all the categories are regarded by Alexander as modifications of Space-Time, Aristotle tried to do justice to all the aspects of reality, and his pluralistic tendency marks him off from the Spinozistic attitude taken up by Alexander in metaphysics in spite of his empirical realism in theory of knowledge. (*cf. Aristotle, "Metaphysica", 1071b) ff*).

ntithesis

8. Those who regard categories as features of things or modes of being have a sort of blood-relationship which makes them all

emphasise the *passive* character of the subject in the knowledge-situation, unless of course the distinction between the subject and the object is *finally* dissolved altogether. Hegel virtually liquidates the distinction and his view that thought is a going out to the object and a return to the subject is only plausible so long as we take his description, in Aristotle's words, as "a poetic metaphor". But it is significant that both Aristotle and Alexander who regard knowledge as a sort of passive reproduction of reality should *at times* identify truth with reality. (*cf. Alexander, "Space, Time and Deity", Vol. II, pp. 252, 259*).

On the contrary, Kant in going to emphasise the active aspect of knowledge creates, (in spite of his recognition of the *data* of sensations), a gulf between mind and reality, which faith alone can bridge. This isolation and that identification make it crystal clear that the mind must be regarded as at once active and passive in the transaction called knowledge. And the categories must be held to be both subjective and objective, not in two different contexts, but in the same context of the knowledge-situation from which they are never absent.

Thesis

Consciou
↓
Intention

We should like to combine the elements of truth contained in these one-sided doctrines and regard knowledge as referential in character, a bi-polar relation between two terms one of which is unique in character. All knowledge is at once subjective and objective, and it is knowledge *not* of phenomena or appearances but of genuine realities. This unique relation cannot be described in terms of any other relation without ignoring its distinctive feature. We follow Kant in regarding knowledge as judging (correctly) and in further characterising it as *categorising*, which is not imposing *ab extra* subjective forms upon a congeries of bare particulars. Knowledge is not passively reproducing an absolutely independent object, but referring to an objective reality always knowable by us. "Reality" viewed as a thing-in-itself is a limiting concept, a concept of bare independence which does not represent a genuine reality or existent. Likewise, the "self" conceived as a bare point of consciousness, the transcendental condition of all knowledge, is another limiting concept with no counterpart in reality.

Synthesi

The mind cannot exist independently of all reference to physical things: in all forms of direct knowledge it accepts the propositional reference as putting it face to face with an extra-mental reality.

This reality is complex in character, because it is an individual existent with almost an infinity of qualities and relations, etc., all of which cannot be revealed to the mind in a *single* judgment. But though no judgment or number of judgments can actually exhaust all its qualities and relations, etc., each one of these is capable of being known by us as the object of a possible or actual judgment. And it is meaningless, because self-contradictory, to speak of a quality or relation that is inherently unknowable, i.e., incapable of figuring as the object of an actual judgment made now, or in the past, or in the *future*.

Hence we are quite ready, as every one must be, to admit that reality is as yet partly and even largely unknown; but we can on no account countenance the view that it is intrinsically unknowable. In other words, though reality is partly beyond our grasp, it is not beyond our *reach*, actual and possible. How on such a theory the concepts of truth and falsity can be explained will be shown in the sequel. Meantime we will elucidate the remark, made above, that judging is categorising—that all judgment involves factors, at once subjective and objective, which are best described as ultimate concepts or categories.

hy. has
ving
rically
nowable.

9. Perception, which is the primal form of knowledge for epistemology, involves both interpretation and materials of sensations which are interpreted by the mind. No knowledge is possible without recognition, which implies, on the subjective side, a dynamic principle capable of identifying objects in a more or less successful manner, and on the objective side, existents with qualities and relations and resembling others already contacted by the mind. We cannot take account of the *very first* act of knowledge of the infant, which is a limiting case and essentially hypothetical. Whatever is true of *that*, any developed judgment involves identification, differentiation, location, and objective reference. All perception is awareness of things or objects, that is to say, of existents with qualities and relations to other existents and viewed as independent of our act of awareness, though not beyond it.

Here we must not repeat the mistake of Kant, who regarded judgment as the act of synthesising a heap of unrelated and atomic sensations. Nor should we follow the sense-data theorists, who are disguised Kantians, retaining, as they do, his fundamental atomism, but only avoiding all reference to transcendent things-in-themselves. (*cf. Price, "Perception", pp. 103 ff : Broad's article "The External* plication, refutation of idealism & establishment of his own ~~ct~~ idealism — simplication

World" in "*Mind*", *Oct.*, *1922*; *Moore*, "*Philosophical Studies*", *pp. 220 ff*). Every act of perception is a perception of *things* as integral units, not of isolated sense-data supposed to be synthesised whether consciously or unconsciously into the wholes of objects.

Price.— Comments Kant

This is not to suggest that every act of perception is the awareness of *all* the qualities of a thing,—which is absurd on the face of it. But we contend that in spite of the great efforts needed by every child to build up ideas of things with their diverse qualities, if he perceives at all, he does come into contact with integral wholes (which are qualitied existents in a particular environment), and is not aware of bare qualities or sense-data, whether visual, auditory or tactual. Hence even for the child no perception is possible without interpretation, without reading into the situation meanings or suggestions of characters not directly presented to awareness *now*, but contacted on previous occasions.

Perceiving involves imaging which is referring to existents when they no longer stimulate the sense-organs. We do not regard images as (more or less) static pictures of reality somehow stored up in the sub-conscious or unconscious region of the mind. Such a view involves *spatialisation* of a process which is, *pace* Alexander, not spatial, though taking place in the space-time background which contains the body of the perceiving mind itself. All thinking involves imaging but not entitative *images* as the fleeting or lasting photographs of external things. Against such a doctrine the objection of Berkeley that "an idea can only be like an idea" is quite pertinent. ("*Principles of Human Knowledge*", *Sec. 8*).

But we reject also the view common to Locke, Berkeley and Hume that an impression is the copy of an external, sensible object. For Berkeley the external object is really divine Thought, but he, no less than Locke and Hume, regards knowledge as the picture of a trans-subjective reality, though it is impossible for us to compare the picture with its original. Kant agrees with Berkeley in regarding the object of knowledge as dependent on the knowing process, though Berkeley is in a way ahead of Kant in finding the locus of dependence in God and not in human minds. Kant's attempted "refutation of idealism" only half succeeds in its aim, inasmuch as the trans-subjective real to which, in his view, all knowledge refers, is partly of the mind's own creation. Indeed, the Kantian phenomenalism hovers about a thoroughgoing subjectivism as preached by Pyrrho and an equally thoroughgoing objectivism such as is found in New Realism. Knowledge, for Kant, is not of things-in-themselves, nor of subjective states, but of empirical objects which, though independent of my mind or yours, are dependent on human minds, and are correlated in a mysterious way—we cannot say, causally—with transcendent entities which for ever elude our grasp. We recognise the element of truth in Kant's doctrine, but insist that reality lies *not behind* the empirical objects *but in* and about them, and if it is wrong to regard the subjective acts of awareness as the only realities, it is equally wrong to suppose that reality is for ever concealed from us by the "forms" and categories through which alone we can look out at it.

10. We do not admit any division of the State of ideas into patrician categories and plebeian concepts. The categories are only the most influential members in the democracy of concepts.

(a) They are, firstly, *fundamental* and that in a double sense. They are *not further analysable* into other concepts or into one another, and are *involved in every act of perception* which is the pivot on which the whole system of human knowledge turns. Ordinary concepts are not involved in every act of perception, but *all* the categories without exception are employed in a single perceptual situation. This is the special feature of our list of categories which cannot be claimed by any other scheme hitherto formulated in philosophy.

(b) Secondly, the categories are, all of them, *at once subjective and objective*. They are not mere ways of knowing, nor are they self-existent or subsistent entities located either in the physical, or in the mental world. There is "one world" not only in a physical but also in a metaphysical sense. It is only a misguided dualism that raises a barrier between the physical and the mental, and then finds that no communication is possible between the two except a sort of passive reflection (which is inexplicable), or a self-projection (which is mythical in the end).

(c) Lastly, the categories are indeed involved in every act of perception, but *no such act is aware of its use of the categories.* The categories are not stored up in the mind as "innate ideas" or "*a priori forms*" to be employed as instruments for fashioning the empirical world or Nature. Nor is the act of perception directed upon the categories as objective entities which together may produce the existent facts or things that are perceived by the mind. (Cf. The *Nyāya* view that regards things as mosaics of entities or categories). On the contrary, the categories in their specific characters are not recognised till we have grasped the nature of many concepts. As *objects* of knowledge and analysis they appear fairly late in the life-history of an individual or a race, *but as ways of knowing correlated with features of the known*, they are always there in every act of genuine perception "waiting", so to say, to be recognised by the speculative mind.

The categories, therefore, as clearly known to us, are only the most general of our generic concepts, and Kant was wrong in considering them as ways of knowing fundamentally different from the ordinary concepts which, he thought, were "contents", not activities. (*Cf. Kemp Smith's "Commentary", p. 178*). They are in a sense "pure", because they are the limits of analysis; but this does not mean that they are unrelated to any factors or features of reality, or wait in the mind prior to experience. We cannot repeat too often that the category, because it is a genuine concept, has both a subjective and an objective side. On the subjective side it is *categorising*, i.e., conceiving and on the objective side, it is the *categorised*, which is an objective element refered to by the act of conceiving expressible in a sentence in the indicative mood.

Man, like any other organism, lives by perpetually adapting himself to his environment which is a physical continuum containing partly separable units called things. These are easily identifiable and have names attached to them, which are the grammatical "nouns" or "substantives". Hence there is a tendency in the human mind to regard all objects of experience, even when considered in abstraction, as substantival in character, because they also have got names by which we refer to them. But when applied to mental phenomena this habit of hypostatisation often misrepresents them by suggesting that they are, like physical things, tangible bits of reality. Concepts and categories are mental *acts*, no less than sensation, perception, thinking, or imagination; and they are not "spun out of thin air" in utter disregard of the nature of objects, but are based on reality, suggested by it, and always appear when the mind is *en rapport* with objective facts or existents. There can be no "deduction" of the categories, "transcendental" or otherwise, but only an "induction", because they are the most general of our generic concepts derived from experience.

11. These are the categories :

(1) Reference,
(2) Existence,
(3) Identity,
(4) Otherness,
(5) Quality,
(6) Quantity,
(7) Relation.

We have placed "Reference" at the head of the series, because the doctrine of categories is, in a sense, the doctrine of judgments, and no judgment is possible without the referential aspect of the mental act, otherwise called "proposition". "Reference" is involved in all mental acts, which may almost be viewed as their defining trait, and the (objective) reference with its emphasis on the referent is what we have designated as the propositional reference. The act of reference implies on the *subjective* side an *agent* that reveals itself in and through its activities, and on the *objective* side an *existent*, by which we mean a *spatio-temporal* object,—other than the mental existent and its states, and having an independent existence but not inaccessible to the mind.

The physical existent, which is the object of perception, is not a bare point of existence, a spatio-temporal event as a discrete entity, but a *qualitied* existent *related* to other existents by which it is surrounded. It is perceived as having a certain magnitude, which is not mere extension or spreadoutness, but a *quantity* of matter in it. This aspect, which may be called its materiality, is known directly in a unique way,—in the way it offers resistance to our own organisms (which are embodied minds). Perception includes recognition which is impossible without some sort of assimilation (involving *identification*) and *differentiation* (involving otherness). And every act of perception is an awareness of concrete objects as integral wholes, though all the aspects of the situation are not attended to with equal interest. We must not forget the *purposive* character of mental acts, truly so called, which involve attention and interest, whether strong or feeble. Every act of perception when analysed will reveal that the seven categories selected from the domain of concepts are invariably operative in the act in its actual setting.

It is part of our fundamental position that all theories of knowledge must *start from perception* as the most fundamental and primitive form of knowledge. The Cartesian method was vitiated by a wrong emphasis on the bare thinking process as the starting point of epistemology. (*Cf. "Meditations", I*). Once we create a chasm between the mind as the thinking agent and the thing as the object thought about, no amount of speculative subtlety can ever succeed in bridging that absolute gap. And just as we cannot regard the perceptive awareness as a discrete act or state existing on its own right (as Hume supposed), we must not look upon a quality as capable of existing by itself and the thing as a mere synthesised product of our own awareness (as the Sense-data theorists cannot but imply). (*Cf. Price, "Perception", p. 248*).

But the fact of perceptual errors raises insuperable difficulties for any theory of direct realism, while truth is the crux of the problem for representative theories of knowledge. This dilemma (that either all or no judgments are correct) can only be refuted by "escaping betwen its horns". All perception is partly direct and partly indirect. The "sensational" aspect of the concrete process puts us into immediate contact with reality in its partial character, while the "interpretational" aspect introduces an element of mediation or indirectness correlated as it is with a character of the real, imaged in the absence of sensory stimulation. Tautological as it may sound, this two-fold nature of the object of perception is due to its complexity of character, all its features being neither possible nor necessary to apprehend by direct contact with the sensory organs every time it comes our way. Error emerges because interest outruns the senses, and truth accrues to judgment when both attention and sense keep pace with one another. But this aspect of the problem will be pursued further as soon as we have taken leave of the categories.

12. We can but briefly refer here to the implications of the present doctrine of categories. It regards the subject-object "relation" as fundamental for all knowledge, and the subject-object relation is only a special case of the general "relation" of *reference*, not properly reducible to any other category, not even to that of Relation. Realists (in the modern sense) minimise the role of mind in the knowledge-situation. But it seems clear that no question-begging term like "compresence" can abolish the distinction between ordinary relations and reference which is truly unique in character. It is no part of our business to maintain that the categories are sharply sundered from one another. That would indeed render abortive all attempts to view them as co-operating in the perception of an integral

object. But we do assert emphatically that, though the categories always act together in perception and are not explicable without reference to one another, each symbolises an irreducible feature of reality, which we can ignore only at our own peril. Tons of theories must be fabricated once we have ignored an ounce of fact, and I, as a thinking being, find it impossible to regard thinking as on a par with the relation, say, between the pen and the inkpot.

13. Existence is the next category and it stands for the existent object in space-time. Whatever physics may say as to the relation between space-time and electrons, that does not bear directly on the perception of things as *macroscopic objects* and hence is irrelevant to a theory of perception, though *metaphysics* must take cognizance of physical theories (provided it is regarded as the study of *all reality*). The object of perception is an existent occupying a position in the spatio-temporal series, and it is a qualitied individual related to other things in its environment. It is differentiated from its background and is identified as an object we perceived before, or as resembling other things already known by us.

14. Identity and otherness are not explicable without reference to one another. Every existent is something, or one; it is, so to say, "identical with itself". This numerical identity is a fundamental concept irreducible to any other and should not be confused with exact similarity or resemblance which is a derivative concept. Similarity means identity of quality and exact resemblance means identity between two (or more) things in respect of all their qualities. Whether similarity is an objective relation or not, that does not in any way affect the objectivity of identity as a category. All attempts to reduce identity to exact resemblance are vitiated by the fallacy of regarding all categories as denoting *qualitative* aspects of reality. But if identity is not the same as exact similarity, nor is it a *relation*, reflexive or otherwise. (*Contrast*: *Johnson*, "*Logic*", *Part I*, *pp. 227 ff*). All relation implies a duality or otherness, but identity by itself does not mean otherness. Relation implies both identity and otherness, but is not a mere combination of them. It means something in addition, but identity is surely not a relation in its distinctive character. The so-called identity-in-difference of the Hegelian logic is but another name for similarity and cannot be regarded as equally ultimate with identity and otherness. Difference means qualitative otherness and is not a synonym for it. If we needed any synonym for otherness, distinction would serve that purpose, when

purged of its customary ambiguity. (*Cf. the phrase, "distinction without a difference*").

15. Quality, again, is an ultimate concept not reducible to any other. But really there is no danger of its being merged into any other category, since it has always had a special fascination for philosophers, who have often tended to reduce other categories to *it*. The concept of substance is closely bound up with this category, and these two are regarded as the most fundamental. *Substance* has been omitted from our list of categories, because we regard it as a derivative concept. The substance is an existent which remains the same in the midst of a change in respect of its qualities. Change means succession, which again denotes a plurality of existents arranged lineally in a temporal series. We have accepted existence (which is spatio-temporal) as a category, and it is clear that the categories of existence, identity, difference and quality together yield the concept of substance. Whether the concept of substance has an objective counterpart or not, is clearly to be decided in the light of experience.

We have avoided all discussion on the nature of substance in view of the recent researches in science, which allege that all things at bottom are only processes or events unconnected by any causal relation. All questions as to the objectivity of ordinary concepts are to be settled by empirical verification, though it must be admitted that the quantum theory cannot possibly invalidate the employment of the concepts of substance and causality in what Sir James Jeans calls the "man-sized world". ("*Physics and Philosophy*", *pp. 42 ff., 144*). But neither substance nor causality is, in our view, an ultimate concept, i.e., a category, because both of them are reducible to other categories without a remainder. Admittedly, this is a dogmatic statement, but we have discussed this question elsewhere in its historical setting. ("*Causality in Science and Philosophy*").

It may be contended that we have smuggled in the category of substance under the guise of Existence, but our reply is an emphatic denial. Existence is a concept more fundamental than substance and the latter cannot be conceived without the former. Every single perception does not reveal to us a substance which implies continuity, and while a flash of lightning is an existent as an object of perception, it cannot be called a substance in any intelligible sense. Indeed, all objects of perception, or existents, are not short-lived. but our general theory must be applicable to all the cases of perception without exception. When attention is continuous, perception may give us knowledge of lasting existents, and since we have all along maintained that perception involves recognition and is awareness of integral wholes, we may even go the length of holding that the objects of perception are substances in *most* cases. But we find no reason for regarding substances as the objects of *all* perceptual judgments, nor do we think that substance is an unanalysable category like existence.

The predominance of substance over existence lies at the root of Absolute Idealism. Bradley strated indeed with the emphatic declaration that every individual has two inseparable aspects, "that" and "what", "existence" and "content". But in spite of Kant's insistence that existence cannot itself be regarded as another quality of existents, Bradley comes in the end to regard all individuals as "mere connexions of content" within the Absolute Experience. And such a view not only sits loosely on the category of existence, but gives rein to that of quality, and riding roughshod over the category of relation, arrives only too soon on the banks of the mystical styx, a plunge into which means a total exit from the world of logic and communication.

16. Relation, however, is an unanalysable concept or category and it cannot be reduced to any other. But as it is not entitative in character, its rights have often been jeopardised in the hands of monists, who regard it as either qualitative, or illusory, or a mere function of the mind. (*cf. Bradley, Spinoza and Green*). Johnson's "proper definition" of relations as "transitive adjectives" is an echo of this perverted doctrine. (*"Logic", Part I, p. 204, footnote*). Relations do indeed hold betwen terms with definite qualities, but are in no sense adjectival to the terms themselves. The logical conclusion of such a view is an utter pluralism, or an absolute singularism, typified in milder forms in the monadism of Leibniz and the monism of Spinoza. And as such doctrines are plausible only so long as you blink facts, it is legitimate to conclude that relations cannot be treated in such a highhanded manner.

The very fact that relation cannot be defined except by the use of synonymous terms is sufficient proof of its character as an ultimate concept. And as to its objectivity the whole literature of Gestalt psychology supplies plentiful evidence. No atomic object figures as the referent of our perceptual judgments. The systems of Kant and Green are negative lessons in the objectivity of relations,

17. Quantity may seem to be somewhat secondary in character. But analysis will reveal that it cannot be reduced to any other concepts, separately or in combination. And that is not in the least surprising seeing that it stands for materiality in the existent as the object of perception. The external object is not a mere point in space-time, but is a material object; while the mental act is an existent in the sense of occupying a definite position in the temporal series. The category of quantity, however, cannot be regarded as applicable to the *referring* mind, but only to the *referent*, object, and here we are primarily concerned with *perception* which is directed upon physical objects only. In the case of such objects the category of quantity does stand for an objective element not reducible to any other.

Even the Electronic theory that regards all physical things as made up of electrons and protons has to admit, when hard pressed, that these are not the *stuff* of the world, but only "a schedule of pointer-readings" discernible by us. (*Cf. Sir Arthur Eddington, "The Nature of the Physical World", p. 251*). But electrons and protons too are *quantitative* in character, and hence they cannot threaten our doctrine of categories. And even if we accept the Theory of Relativity with its philosophical implications, and regard matter as a "kink" or "curvature" in Space-Time, such a view cannot amount to an identification of matter with spatio-temporality.

Hence our doctrine can withstand all the apparent attacks made by the recent scientific theories in their metaphysical bearings. For though *materialism* has been discounted by the new physics, it has left intact *materiality*, which considered in itself can be best described as *quantity*, not reducible to any other concept. Impenetrability, solidity and such other "definitions" have been debunked by the quantum physics which accepts as leading features of the physical universe the probability waves created by actual observation of the physical quantities with which they are associated. (*Cf. Jeans, "Physics and Philosophy", pp. 153 ff*). The tendency of Wave mechanics, because of its acceptance of Heisenberg's Principle of Indeterminacy, is to entail a subjectivistic position in philosophy. Sir James Jeans thinks that "modern physics has moved in the direction of *mentalism*", and he himself almost accepts a subjectivistic position when he declares that the "objective and material universe is *proved* to consist of little more than constructs of our own minds". (*op. cit., p. 216*). But surely all this applies to *the laws* discovered by physics, which indeed, may be regarded as "subjective" because they depend on our own thought and, *as laws*, are not there in the objects.

The above quotation, however, is an occasional lapse on the part of Jeans who advocates an objectivism on the whole. But his criticism of Eddington as represented by the latter's "*Philosophy of Physical Science*" is vitiated by his ignoring the important consideration that Eddington's "Selective Subjectivism" is not mere old wine in new bottles. Eddington does recognise that "*pure* subjectivity is confined to the laws—the regularities—of the physical world. The variety of appearances around us is primarily an objective variety......We admit an objective element in the special facts which constitute a large part of our knowledge of the universe around us". (*"The Philosophy of Physical Science", p. 217*). The objective element which bulks largely in the unsystematised part of our knowledge is kept by him out of the limelight, because he is primarily concerned with the findings of physical *science*. But "when we put off the blinkers of the specialist, and view the two elements together in proper perspective, we shall find that they form a universe not unacceptable as an answer to the elementary questions which arise out of familiar experience, as well as to the more recondite scientific questions". (*Op. cit., p. 161*). This admission takes the edge off the objections such as are raised by the critics of the scientist-philosophers. (*Cf. Stebbing, "Philosophy and the Physicists", pp. 278, and Joad, "Proceedings of the Aristotelian Society", Vol. IX and also his "The Philosophical Aspects of Modern Science", passim*). But Eddington, influenced as admittedly he is by Kant and Russell, cannot really solve the "conundrum" of objectivity propounded by philosophers. For how can he view "in proper perspective" the subjective and objective elements when he regards the objective as a surd to be eliminated, "the essence of individually", in Russell's words, lying in what "always eludes words and baffles description, but which for that very reason is irrelevant to science"?

18. It is our contention that the object of perception is an existent individual, by which we mean not a mere spatio-temporal point or "event", but a "structure" of such events qualitied and related to other individuals in a common environment. This structure is not something we put into a bare "reality-stuff", a mere contour of space-time. It is a concrete existent clothed with the flesh and blood of "secondary" and "primary" qualities; but it would be a hopeless task to *isolate* the subjective from the objective elements.

The mere "objective" cannot even be referred to by us. When there was no sentient life in the universe, we cannot imagine what its "objective" character was; but if we think of such a state at all, we cannot but endow it with the characters and relations we find in the objects of our actual experience. There is a modicum of truth in Berkeley's laconic dictum, "*esse is percipi*". But there is no justification for either regarding the objective as a self-projection of God, or as a thing-in-itself inherently unknowable by the human mind.

Eddington reverses the meaning of the terms 'subjective' and 'objective' without showing *how* they are involved in every perceptual situation. "The *subjective*", he says, "is to be identified with the *physical* and the *objective* with the conscious and spiritual aspects of experience". (*op. cit., p. 184*). But no dovetailing of the "objective, conscious" aspects of experience to its "subjective or physical" aspect will effect the "grand synthesis" necessary for the full-blooded knowledge of external objects. It has to be recognised that the subjective and the objective stand for the nearer and farther poles of the concrete act of perception, and that this objective pole is not another existential side of our own selves, but of the *not-self*, however we may characterise it taken by itself. This objective factor we have thought it best to describe as an existent with all the implications noted above.

19. The term "existent" has perhaps a savour of ambiguity which makes it a safe gambit for condemnation. Indeed, the plausibility of the ultra-modern craze of Existentialism derives largely from such ambiguity. (*Cf. Sartre, "Existentialism and Humanism", pp. 26 ff*). But it is at any rate a much better term than "Being", or "Reality", either of which leads to an orgy of ever-expanding abstractionism. "Being" is best described as "a possible (or actual) object of thought", and "Reality" means whatever the speaker intends it to mean, and is thus virtually a synonym for "Being". But "Existence" has a definite meaning, since it is always the object of an actual perception. All other forms of knowledge are rooted in perception, as we will see hereafter.

Hume was right in his insistence on the *priority* of "impressions" in knowledge, but he overshot the mark by regarding them as the *sole* constituents of the perceptual object. (*"Treatise of Human Nature", Green's edition, pp. 316 ff*). And there is truth in Ayer's contention that signification is but another name for "verifiability in principle". (*Cf. Ayer, "Language, Truth and Logic", pp. 20 ff*). But he unduly limits the meaning of verification by treating it as some sort of contact with a sensory core. No perception is possible, however, without a combination of sense with common sense, a synthesis of sense-data and meanings. Only, we should not regard either of these two items of experience capable of existing by itself without reference to the other. The concrete act of perception grasps a concrete stuation, and it is only an out-moded atomism that views the object as a *construct* or synthes*ised* whole.

20. We have got to realise that knowledge cannot be regarded as reflection, or construction, or self-identification in any intelligible sense. It is neither taking, nor making, nor becoming, nor being. The uniqueness of judgment should be recognised once and for all, and even the phrase "acceptance of an objective reference" is only a description, but no definition, of it.

CHAPTER V

NATURE AND CRITERION OF TRUTH

1. Knowledge consists in true judgments, while error lies in untrue or false judgments. Truth and falsity are opposite characters of judgments, and if we know what truth is, we understand at the same time the nature of untruth or falsity. But as soon as we try to form a clear idea of the nature of truth, we are plunged into an abyss of doubt and perplexity. " 'What is Truth', said Jesting Pilate and would not stay for an answer". But even had he stayed to our own day, no theory of truth could have afforded him complete satisfaction.

Some thinkers have regarded Truth as an awe-inspiring entity (or system of entites) laid up in heaven, half-revealing and half-concealing itself through the world of man and nature. Some have thought it to be a partial aspect of Reality manifested in human judgments which are at the same time permeated by error. Others, again, have viewed it as a hypothesis workable in practice and liable at every moment to be turned into an error. Still others have held that truth is but another name for a proposition which is one among other existents. Some would regard it as an intrinsic character of judgments, self-evident and absolutely certain. But some ancients were convinced that truth is a creature of fancy not to. be found anywhere in the world of experience. And some ultra-moderns, who are impatient with all talks of reals and entities, declare truth to be a quality of words connected by rules of syntax alone.

It is difficult to do justice to the various strains of thought that these conflicting theories try to express, and our rejection of the whole gamut of them may seem a bit cavalier, or dogmatic. Hence a threadbare treatment is necessary, though a detailed discussion is impossible in the space we have allotted to ourselves. All these views may be classified into two groups, viz., those that regard truth as the same as, or as a quality of, reality; and those that consider it of the nature of supposal, intention, or imagination. In other words, while the knowledge-situation involves both a subject (knower) and an object (known), some place truth on the objective side and some, on the subjective side. All of them start by setting up a barrier between the subject and the object, and come in the end to distort the unique relation. Either a psychological or a metaphysical bias lies at the root of this mischief.

But there is another theory which we have not mentioned yet, though that is not really a theory but a recognition of the fact that seems patent and indubitable. It is the common-sense view that truth is some sort of correspondence, conformity, accordance, or congruence between our thinking and the object thought about. In some form or other this view has been either explicitly or implicitly accepted by most philosophers down the ages, beginning with that master mind, Aristotle. Differences have arisen as to the exact interpretation of the peculiar relation described as correspondence; none the less, all the proponents of the theory have held that truth is neither reality independent of our thinking, nor, again, a quality of our thinking without some connexion with reality, but a character of some (not all) of our judgments which represent a peculiar relation of minds to objects. Difficulties have been encountered in the attempt to describe knowledge in terms of some other relation, such as copying, reflecting or representing; and yet the advocates of the theory have stuck to it with unflinching devotion. It is agreed that this unique relation does not enable us to "enter into the heart of reality", or "identify ourselves with it", and that there is, therefore, always the chance of its going awry or failing in its mission. None the less, there is also the chance of its being successful, and hence we have both truth and falsity as characters of our judgments.

2. It is our contention that only a form of the correspondence theory can explain the *nature* of truth, falsity and the general fallibility of human judgments. A theory of truth should be, at the same time, a theory of falsity, for any judgment, without a single exception, *may* be either true or false. Further, *truth* should not be identified with meaning which is but another name for the objective reference involved in each and every judgment. Judgments are always communicable, though not actually communicated, and as indissolubly bound up with language represent reality by means of verbal symbols. The adequacy or efficiency or correctness of such representation is ascertained by means of practical success, verification, or coherence with the system of human knowledge embodied in language.

Knowledge means a correct judgment, a judgment certified or certifiable as true, i.e., as congruent with reality. The congruence in question is, in exact terms, a conformity between a propositional reference and the fact it wants to refer to. The relation of congruence cannot be described as one of similarity-in-structure, one-one correlation, copying, or adjustment. It is the relation between *a propositional reference and its total referent, whether existential or subsistential*. This relation is not like one between two physical things or states, nor again like one between two minds or mental events : it is unique and has on one side a judgmental act and on the other side an existential fact or an abstracted feature of that. The propositional reference is not itself verbal but can be discussed only as embodied in words : and the referent of a proposition is not a single element like a quality, or a relation, or a quantity taken all by itself. The referent of a perceptual judgment has already been shown to possess all the "categorial features" which are closely interrelated. Each judgment pays attention only to some of these features as interrelated, and its propositional aspect indicates this interrelation which is expressed or expressible in words. If the interrelation thus symbolised corresponds or agrees with the actual state of the whole referent, the judgment concerned is true, and otherwise false.

Truth is therefore a quality of the judgment whose propositional reference agrees with its entire referent, while falsity is a quality of the judgment whose reference disagrees with its total referent. These qualities are not intrinsic and belong to judgments as "intransitive" or "immanent" characters. Judgments .are no judgments short of a transitive reference and there is no truth or falsity that does not accrue to them from a specific relation between their references and referents. As soon as we attempt to describe this unique relation (positive or negative) in terms of other relations, or in terms of mere qualities, or mere things, we invite a host of difficulties which render the words "truth" and "falsity" meaningless at bottom.

3. Truth should not be identified with meaning which belongs to all sentences that stand for mental acts of any type. Meaning as propositional reference is asserted or accepted by judgment which is symbolised by an indicative sentence. Both true and false judgments contain meanings or references which may or may not agree with facts or referents in their integral characters.

Hence, if it is incorrect to reduce truth to an intrinsic character of judgments, separate or combined, it is equally wrong to locate it in the world of existents or subsistents that does not involve a necessary reference to judgments. Truth is the quality that accrues to a judgment when its reference as symbolised in words agrees with the referent as actualised in its entirety. It is, briefly, the unique relation of correspondence between a symbolic reference and an actual referent in their integral characters.

This sounds perhaps more obscure than it should. But there is a real difficulty in the situation, which cannot be removed by embracing a simpler variety of the correspondence theory, far less by accepting any other theory of truth. Correspondence viewed as structural similarity between the reference and the referent would either hypostatise an abstraction (viz., the proposition) or reduce the referent to a logical entity which cannot be the object of our primary judgments (perceptual, mnemic, or introspective). Moreover, such a view would set up the proposition as a third something entitative in character and arrive at a representationist theory of knowledge which reduces itself to a form of fictionism, logical or psychological. Any brand of the copy theory in trying to explain the truth of primary judgments would go against facts of everyday observation. It is the difficulty of explaining correspondence without resort to representationism that is largely responsible for the advocacy of other theories of truth.

4. The Absolute Idealist rejects the correspondence theory because he believes that there is nothing independent of thought to which it may correspond. There is no pure datum even in perception and so we cannot speak of correspondence of thought with something uninterpreted and unmodified by thought. The idealist regards all knowledge as concerned with mere interpretation, and holds truth to be an "internal" relation among judgments alone. He defines Truth as "a significant whole", a system of reciprocally determining and reciprocally determined judgments. (*cf. Joachim, "The Nature of Truth", p. 66*).. It is described otherwise as a coherent body of judgments, comprehensive and all-embracing. Particular judgments are true only in proportion to the amount of harmony and comprehensiveness that they possess. Thus there are degrees of truth as well as a perfect Truth which admits of no degrees.

Coherence describes the nature of truth and serves equally as its criterion, for comprehensiveness is a secondary mark that follows from coherence. Comprehensiveness has been introduced soley for the purpose of guarding against the charge of fictionism : and yet it fails to serve this end because it is a mere consequence of the formal consistency of thought. All reference to the matter of thought is precluded by the idealist's rejection of the datum of knowledge.

5. But the omission of all reference to a trans-subjective datum leads to disastrous consequences. Short of such reference truth seems to be a meaningless word. This is admitted in a way by idealists themselves. As Bradley says, "truth, to be true, must be true of Reality", and that "if we asserted or denied about anything else our judgment would seem to be a frivolous pretence". (*"Logic", Vol. I, p. 41*). He is more explicit elsewhere : "Truth, to be true, must be true of something, and this something itself is not truth. This obvious view I endorse". (*"Essays on Truth and Reality", p. 325*).

The referent of judgments is therefore something beyond them and is the whole of reality otherwise known as Absolute Experience. This Experience is a perfect blend of knowing and being, one undifferentiated mass of sentience. Particular judgments are partly false because they fail to comprehend the whole of this Experience, and even the entire system of judgments which is perfectly coherent falls short of its goal. Every judgment attempts to identify itself with Reality ; but since it involves a divorce between existence and content, even the whole system of truths fails to effect a reunion. Hence "truth", says Bradley, "content with nothing short of Reality, has, in order to remain truth, to come short for ever of its own ideal and to remain imperfect". (*Ibid, p. 251*).

The admission of this necessary gap between truth and reality suggests a correspondence view of truth. The ideal of truth, or the Ideal Truth, which is the same as Reality, is indeed no correspondence, because there is nothing for it to correspond to. But finite truths, which alone are accessible to us mortals, are true in proportion as they *correspond* to Reality.

This interpretation is confirmed further by the doctrine of degrees of reality. Ultimate Reality is indeed one, but finite things possess more or less of this reality ; and judgments about them are true in proportion to the degrees of reality of their referents. The idealist himself would say that degrees of truth are measured by the amounts of coherence in the judgments. But coherence regarded as the character of a single judgment is another name for comprehensiveness, and the latter is clearly relative to the degree of reality of the referent of the judgment.

Joachim confesses that there is a sense in which the correspondence theory seems true, that "a continuous passage must be shown from that conception of things, which renders the coherence notion possible, to the dualistic conception which is involved in correspondence". He declares further that since such a passage is impossible, "the coherence notion of truth may thus be said to suffer shipwreck at the very entrance of the harbour........a disaster which is inevitable". (*"The Nature of Truth", p. 271*).

6. This disaster can be avoided only by throwing overboard the conception of coherence as the definition of truth. Coherence is doubtless a criterion of truth because all judgments cannot be tested by a direct appeal to facts, and we have often to depend on the formal consistency between these judgments and the general body of human knowledge so far as it is accessible to us. But that the very nature of truth is such harmony is a proposition we can by no means endorse. The idealist fails to account for the truth of even a single judgment because he regards it as an attempt at identification with reality. Once we reject this impossible notion, we cease to be haunted by the nightmare of intellectual suicide that the idealist dangles before us as the consummation of thought.

This would also amount to a rejection of the doctrine of degrees of truth with its corollary of the radical falsity of all judgments Any particular judgment has a definite referent, and when its reference and referent correspond to one another, the judgment is true without any proviso. The idealist recognises that the logical subject is a particular reality, and yet he feels constrained to regard every judgment as false because its subject is not the whole of Reality. But since we regard truth as a relation between the reference and the referent, the truth of no judgment is affected by the various relations in which the referent may stand to other objects. Every judgment is purposive and is relevant to a particular context. Hence if it is no aim of the judgment to tell us everything even about a single thing, it cannot be false merely because it does not tell us everything about this and everything else.

The absolutist may reply that such would be the case if the referent were "internally related" with everything else. But the doctrine of internal relations can be accepted only by those who regard all things as mere connexions of qualities somehow housed in a transcendent experience, or consider causation to be a necessary relation that binds all things together into a substantial unity. Neither of these propositions has been proved by any one, and both are really deductions from the view that Reality is a unitary substance. (This question will be discussed further in the chapter on "Complex Inference").

But one thing is clear at all events: it is that the ultimate unity of all things as parts of the same substance not only reduces the world of our experience to a mere appearance, but abolishes the distinction between the truth, the falsity and even the meaning of our judgments. This alone would suffice as a fatal criticism of the coherence theory of truth.

7. The pragmatist repudiates the idealist contention that the criterion of truth is an inaccessible system of judgments grasped only by the Absolute. Every judgment, he urges, is initiated by a practical difficulty, and its value lies in the removal of the difficulty. This value, however, is not something that results from the truth of a judgment but constitutes its very truth, a character that happens to it. Utility or success in practice is both the criterion and the nature of truth. "The 'true'", says James, "is only the expedient in the way of thinking, just as the 'right' is only the expedient in the way of our behaving: expedient in almost any fashion; and expedient in the long run and on the whole, of course". Or, as Schiller puts it: "In all actual knowing, the question whether an assertion is true or false is decided uniformly and very simply. It is decided, that is, by its consequence". (*"Studies in Humanism", p. 154*).

Thus the pragmatists insist greatly on the purposive character of judgments. Intellect is only an instrument that helps us in our adaptation to a constantly changing environment. Reality is not a fixed system or aggregate of static things, but is relevant to and even constituted by human purposes. As Schiller says: "Real *means* real for what *purpose*, to what *end*, to what *use*"? It follows, therefore, that truth cannot be any correspondence between thought and reality, for reality is itself moulded in accordance with our purposes. Rather, the criterion of reality is a sort of correspondence or subservience to our desires and intentions. Utility is not only the criterion of truth, but defines the nature of truth as well as of reality.

8. This extreme purposivism has been inspired by both Protagoras and Kant. Protagoras had described man as "the measure

of all things", and Kant had declared that though the understanding legislates for Nature and is thus partly constitutive of empirical objects, ultimate reality reveals itself only to will or practical reason. Pragmatism reverses in a way the roles of intellect and will : for it assigns the revealing function to intellect and the constitutive function to will, and abolishes the distinction betwen empirical and transcendent reality. But while Kant advocated the coherence theory of truth in spite of his admission of the datum of knowledge, the pragmatist rejects that theory as intellectualistic, and embraces the utility view so congenial to his radical voluntarism. But the radical empiricism that virtually liquidates the datum of experience cannot but land us in fictionism or a philosophy of "As If". (*cf. Prof. S. Radhakrishnan, "The Reign of Religion in Contemporary Philosophy", pp. 226 ff*).

As this would itself constitute a fatal criticism of pragmatism, it is useless to multiply objections of which there is a legion. Whatever his explicit professions, the pragmatist in practice finds himself compelled to regard correspondence as the nature, and coherence as a criterion, of truth. For utility also means verifiability, and the latter when fully developed involves the conceptions of coherence as well as of correspondence. The satisfaction that is the mark of usefulness is in the end admitted to be not only emotional but also intellectual, and the latter is another name for consistency or coherence that others regard as a test of truth. Thus Schiller confesses that "true and false are the forms of logical value", and that validation involves reference to "the bodies of established truth" which are, of course, coherent with one another.

Prof. Dewey regards truth as "warranted assertibility", and quotes with approval Peirce's definition as "the best definition of truth from the logical standpoint which is known to me". (*"Logic", p. 345*). "The opinion", says Peirce, "which is fated to be ultimately agreed to by all who investigate is what we mean by the truth, and the object represented by this opinion is the real". (*"Collected Papers", Vol. V, p. 268*). But there is a "more complete statement" which runs thus : "Truth is that concordance of an abstract statement with the ideal limit towards which endless investigation would tend to bring scientific belief, which concordance the abstract statement may possess by virtue of the confession of its inaccuracy and one-sidedness, and this confession is an essential ingredient of truth". (*Ibid, pp. 394 f*).

9. James and Schiller insisted on practical success as the mark as well as the nature of truth, but came in the end to realise that "practice" must be so interpreted as to include intellectual activity or theorising as one of its forms. Hence an intellectual twist was given to the term *utility* which became a synonym for verification. But if verification is equated with truth, it follows that no judgment can be regarded as finally true because validation is never decisive or complete. This is indeed quite welcome to pragmatists who extol man as the maker of truth and reality. But verification is itself meaningless without reference to something which is at least logically prior to the process of verification.

Now, Dewey tries to obviate this difficulty by eliminating all suggestion of a pre-existent real. "Warranted assertibility" makes truth frankly provisional and derives it from the consensus of opinion prevailling at the time the assertion is made. Alexander, it may be noted, proposed a similar criterion of truth, and regarded coherence as the nature of truth. The coherence he spoke of is, however, at bottom a sort of correspondence, for no coherent system of self-sufficient truths is admissible in his system. But let that pass. Dewey rejects in the end the conception of provisional truths, and posits as the ideal of truth a far-off human judgment which will be accepted some day by all. He is forced to recognise that all determination of truth-values presupposes a fixed standard such as others also argue for.

But the advocates of the coherence theory find it in a perfect system of judgments accessible, if at all, only to the Absolute, and the proponents of the correspondence view locate it in the available body of human knowldge (together with basic assertions that put us in a direct contact with facts). Dewey, on the contrary, finds it to be "an opinion which is fated to be ultimately agreed to by all who investigate" : but this must elude our grasp, just like the absolutist's standard, because verification is never complete or final.

What Peirce calls the "concordance of an abstract statement with an ideal limit" is known to others as coherence or consistency, and though it is supposed to constitute the nature of truth, it is only a criterion. In a sense, the pragmatist, just like the absolutist, must advocate a theory of coherence, because both of them would dispense with the datum of knowledge. But we have seen that the absolutist must introduce the datum through the backdoor or else end in shipwreck, and similar is the case with the pragmatist. For "the object represented" by the true opinion is declared to be the "real", and this real must be something other than the opinion which is said to "represent" it. The pragmatist must, therefore, either advocate a correspondence view of truth or end in a fictionism that may be designated as psychologism.

10. The logical positivist goes one better than the pragmatist in the direction of subjectivism. For while the pragmatist holds consistency among hypotheses to be the nature as well as the criterion of truth, the positivist offers verbal consistency as the distinctive character of truth. Truth is, for him, not a semantic but a syntactical concept. He reduces truth to a relation among sentences, and thus admits no distinction between truth and meaning, falsity and nonsense.

His position is pragmatist in the sense that he believes to have avoided endless complications by making the knowledge-situation a simple affair for the analyst. But he is, in another sense, a subjectivist of the verbal brand in that he omits all reference to trans-subjective facts. While the idealist reduces the datum of knowledge to a mere interpretational element and is thus able to regard truth as a coherence among judgments, the positivist, in his reaction against all metaphysics, views truth as a syntatical relation among purely verbal utterances. Thus if the absolutist declares—"There is nothing either true or false but is both at once", the positivist avers—"There is nothing either true or false but talking makes it so". The former dwells in the twilight region of ideas with an open road towards Reality, which turns out in the end to be a blind alley, and the latter is lodged secure in a dark chamber full of noises and shapes with no windows to give him glimpses of reality ever in life. Hence while the one runs to death in order to catch the rainbow glimmering on the horizon,—the other pines away like a Narcissus constantly brooding over the music of his own primitive prattles.

Both forget in their mystical flights that the homely purposes of our everyday words, or judgments, are not to point to other words or judgments alone, but to refer to facts deeply rooted in the solid soil of a spatio-temporal world. This reference may not indeed be always determined as correct or incorrect by a simple observation considered in itself, and often takes the help of other words and judgments and a concord or harmony between them. But from this it by no means follows that such harmony or consistency is the very meaning of truth, as those formalists would have us believe. Truth is not a matter of words only, nor an affair of judgments alone.

11. The New Realist tries to do justice to the objective aspect of truth, and thus differs fundamentally from the pragmatist and the logical positivist. Like the idealist he starts with the distinction between the subject and the object, the knower and the known, which are the two terms of the knowledge-relation. But while the former reduces the object in the end to an inaccessible experience in which the subject, too, must merge itself, the new realist sticks to the distinction betwen the knower and the known, even though both are, for him, of the same nature.

Truth is for him a correspondence between a proposition and a reality. But since the proposition is neither mental nor logical but of a piece with the physical, correspondence turns out to be a relation among existent facts or objects. Falsity is equally objective and is simply a contradiction or opposition among facts or existents. The view tries to avoid the difficulties of representationism in all its forms and thereby safeguard the interests of truth in judgments. But the seemingly easy solution fails miserably in the case of error which becomes a mysterious affair. As mentioned earlier, if the false judgment has an objective situation with which it is in direct contact, its falsity is not different from truth in any intelligible sense. But to make such a contention is not to explain truth and falsity, but explain them away, and the new realist should have regarded truth as an intrinsic character of all judgments, and held it to be self-evident.

12. Prof. Reid regards utility, coherence and even correspondence as criteria of truth and contends that the nature of truth can be defined in none of these terms. Truth, he suggests, is an intrinsic quality of knowledge as a mental act. "Knowledge of the external world", says Reid, "is a kind of grasping of the physical by the psychical, a process normally issuing in judgment, judgment again being normally expressed in language, making propositions".

"The whole process of knowledge", he proceeds, "is transitive; it is a focussing upon its objects"; and "truth........is, after all, nothing else but knowledge doing its own job". "Looked at in this way, it will readily be seen how very far are 'correspondence' or 'coherence' from giving us an account of the nature of truth, which is to knowledge as health is to the organism, namely, knowledge's true functioning". So he thinks it is wholly unnecessary to be concerned with *tests* of truth, rather than with truth itself. "Is true knowledge in any sense 'correspondence' or 'coherence'? No, rather is truth just the quality of knowing as it performs efficiently its function, namely, that of apprehending reality as it is".

Reid regards the proposition as the verbal expression of the judgment which is a mental act directed upon an object. He thinks that there is "some relation" between the proposition and a reality beyond; but since the proposition may be either true or false, though in a 'metonymous' or borrowed sense, the relation between a false proposition and its object cannot be the same as that between a true proposition and its object. And yet he is convinced of the self-evident character of knowledge and truth. He is certain that "the nature of knowledge (and therefore truth) cannot without caricature be described as 'correspondence'". It is not clear, however, what he means by the "efficiency" and "inefficiency" of knowing, and one should have thought that these were relative to correspondence and its absence. His talk about the "prehensile" character of knowledge is partly a poetic description and partly suggests an intuitionist theory like that of Bergson, Lossky, or Lipps. (*cf. Reid, "Knowledge and Truth", pp. 182 ff*).

Lossky holds that we have an "immediate consciousness" of subjectivity as also of objectivity, and in such consciousness alone "thought has a real and immediate guide in its search for truth". (*"The Intuitive Basis of Knowledge", pp. 227 ff.*). We have seen how an intuitive basis of some sort may legitimately be admitted as involved in verification. But it can easily be shown that the psychological awareness of objectivity cannot be accepted as the *sole* guide in the search for truth. Verification must therefore be supplemented by coherence with the general body of human knowledge. The Sāṇkhya school of Indian Philosophy that regards both truth and falsity as "intrinsic" holds self-evidence to be the nature as well as the criterion of truth. If Reid had understood the full implications of his theory of intrinsic "truth-value", he would not have sought any criteria like correspondence and coherence, as are accepted by the Nyāya system that views both truth and falsity as "*extrinsic*" characters of judgments. Truth and falsity are indeed extrinsic characters because they happen to judgments which are neither fully intuitive nor self-evident.

13. It is instructive to consider here another theory of "intrinsic

truth", that regards truth as immanent in judgment and any criterion of truth as wholly superfluous. (*Dr. A. C. Das, "Negative Fact, Negation and Truth", pp. 136 ff.*). "Truth", we are told, "by its notion implies contact with fact, though it is itself not the contact. An idea........(as a yearning on the part of consciousness for contact with the corresponding fact) is not only indicative but also reminiscent of the relevant past experience or experiences". Truth is found "only in the sphere of judgment" in which "we are aware of the contact by way of determining the given in thought, and this determination entails the use of an idea and the subject's attitude that takes shape in claim or assent".

Judgment is not the same as "simple apprehension" where "facts are immediately given without the mediation of ideas". "When we know a table, for instance,......we......apprehend the table in question given as a fact by the suggestion of which the idea *subsequently* rises in our mind and the judgment, "Here is a table', takes place, when we *claim* truth on the basis of the *content* presented". "The process of thought involved in a judgment is, so to speak, a complete circle, or a straight line along which we twice travel. What I intend to convey through the symbol is this, that in the situation of judgment, we first pass from fact to idea, then from idea back to fact again, and truth consists in the second movement of thought".—This, it should be noted, is a description of perception, which is identified with judgment, and yet we are presented with the emphatic utterance : "If we claim truth in a judgment it is a sufficient argument for the fact that it is also known, and for that reason, involved therein". The description of judgment makes it a highly intellectual operation and yet every judgment is true, because it claims to be such.

It is not difficult to put one's finger on the many confusions involved here, and yet another surprise is in store. "We claim truth when an idea is found to correspond to the relevant objective content presented". Every judgment, we are told, is perceptual and involves ideas (that entail a "severance in being") which are suggested by facts, and the act of judging consists in claiming truth for itself because the suggested ideas are found to correspond to the facts presented. And yet truth is "immanent" in a judgment, "a criterion is otiose" and "a false judgment, then, strictly, there cannot be, though a judgment may be falsified".

The theory in question is a restatement of the doctrine of "intrinsic truth and extrinsic falsity" advocated by the Vedāntists (and others). But whereas they, when hard pressed, declare that falsity is really "indescribable", Dr. Das accepts contradiction as the criterion of falsity, maintaining all the time that judgments are inherently correct. Indeed at times "we are deceived by a truth-consciousness and a truth-claim" and yet there is no need for a criterion of truth, because falsity is only "an aberration from the normal course of our knowledge judgmental in character". The only salvation for such a theory is casting its lot with a thorough-going intutionism, and not intellectualising the judgment and calling it inherently correct in the same breath.

14. We have referred to the above theory as also to that of Reid, because they try to do justice to truth as a quality of our normal judgments. Their insistence on the "intuitive basis" of knowledge is sound in principle, though they fail miserably in the explanation of error. Reid is amenable to correction because he accepts criteria of *truth* as well as of falsity. But the very need of a criterion shows that truth cannot be regarded as an intrinsic character of every judgment, and the situation becomes absurd for one who regards correspondence as the nature of truth.

Hence we declare emphatically that the pragmatist contention that truth *happens* to a judgment is partly correct, though the pragmatist goes to the opposite extreme by identifying truth with verification. But truth is inherent in judgment in the sense that *only* a judgment can be true, but not in the sense that *every* judgment is true. The nature of this quality cannot be understood without considering the relation between the propositional factor of judgment and the object judged about. We have maintained all along that neither quality, nor relation, nor any other category (in our sense) can be understood without reference to *all other* members of the "heptarchy". All qualities are "transitive", just as all relations are, in an analogous sense, "qualitative"; such descriptions are, however, misleading inasmuch as they suggest that some of the categories can be wholly resolved into any other or others. But such a consideration may, in the present case, if we are not carried away by analogies, serve to show that truth cannot be viewed as an *intrinsic*, in the sense of an *intransitive*, quality of judgments. It is only a halting analysis that regards qualities as stored up in the substantial core of a thing. This superstition has cramped the progress of logic and philosophy for two thousand years and it is surely time we gave it a decent burial.

15. Judgments, like all things human, are fallible; but we have

no divine avenue to infallible truths. Once we have made this general confession as to the human approach to reality, it is not necessary to stop at every step and ponder over the difficulties we have overcome, or those that lie ahead. Such a defeatist attitude would cut short our intellectual journey through the universe. Life demands a bold attitude in us if we are to adapt ourselves to an indifferent and even hostile environment. At times we have to adapt the environment to ourselves by interfering with its features and occurrences. To that extent we are all pragmatists, for we mould and in a sense *make* reality.

Hence we must reject all absolute truths that wait, Heaven knows where, to be discovered by imperfect mortals. Indeed the search for truth is a metaphorical expression; for what we seek is not truth but reality. Since, however, it is not humanly possible to know the whole world by personal acquaintance, we want to familiarise ourselves with it indirectly by reading or hearing the accounts of others' adventures. In this sense we seek truths independent of my mind or yours, but it would be highly illogical to jump to the conclusion that truths dwell in an absolute region raised above space and time.

Those who think that truth would suffer in dignity if regarded as a quality of mental acts and thus evanescent must be reminded that all "values" are partly dependent on minds. That dependence, however, does not detract from their value but makes them values in the only acceptable sense. "Values" should not be regarded as "remote and inaccessible of attainment", hovering "in an indefinite way over the actual scene". In that case they cannot evoke and direct strivings for embodiments in actual existence. They cannot even so much as be spoken of at all.

Truth as a value, though it emerges as a quality when the mind is in the cognitive relation with its object, is eternal in the sense that if that mental act was a true judgment, it did give us a truth—which is only a truism. "The quest for certainty" in the midst of uncertainties in life makes people believe that unless a thing lasts for a long time, it is neither real nor valuable. But even a transitory real is real for all that, and an instant may be made eternity when we know where its proper value lies. In this sense, Russell is right when he says that "to realise the unimportance of time is the gate of wisdom". (*"Mysticism and Logic"*, *p. 22*).

But truths are permanent in another sense. They are embodied in sentences which are the vehicles of thought, and as tangible and durable as finite things go. Huns and worms may destroy them no less than the wild forces of nature, but no good purpose is served in the end by laying them up in a Platonic heaven, and singing hosanna to the *Logos*: "In the beginning was the Word"! Language must be stripped of its magical properties and truth divorced from its awe-inspiring attributes before logic can do justice to their role in the "intelligible world".

CC0. In Public Domain. Prof. Ambikạ Dutt Sharma, Varanasi Collection

CHAPTER VI

TRUTH, FALSITY AND PERCEPTION

1. Perception is the awareness of objects that stimulate our sense organs here and now. It seems to be the most secure hold that we have on reality,—the things we see around us. And yet it is well-known that perception at times goes astray and fails to present us with a correct account of things. Things are not always what they seem—even in perception. In that case the form of knowledge that seemed to be direct in a true sense cannot be viewed as such. This is why representationism has always had a fascination for philosophers and even for laymen when they begin to reflect on the matter.

But representationism has difficulties of its own. For according to it our mind is never in direct contact with the objects of knowledge but only with its own ideas which are copies of these objects. Apart from the fact that ideas as mental pictures of physical things are creatures of fancy, the truth of our judgments of perception melts away into thin air. If the objects of perception forever elude our grasp, how can we be sure that our ideas correspond to them and are thus accurate representations of things? And if the truth of our perceptual judgments remains unaccounted for, the representative theory of knowledge is not worth serious consideration.

Hence both subjectivism and objectivism must be united in such a way as to make room for truth and yet leave always a loophole for error. The well-known facts of everyday life and those discovered by psychology, physics and physiology should be taken into account and not ignored or distorted in the interests of any logical or metaphysical dogma.

These facts indicate to an unbiased mind that every genuine perception or sensory apprehension of concrete objects involves both "given" and "taken" elements. The two terms "given" and "taken" are being used in an epistemological sense. The physical object, for aught we know, may be there in its entirety at that point in its history : none the less, all its qualities, relations and other aspects are not "simply apprehended" or "directly contacted" by me in a single act of perception. In other words, the "ontologic" object or thing is only partly revealed as the datum or given object in any perceptual awareness which is always judgmental. And yet the object of perception is the whole thing as the referent of the proposition asserted in the judgment concerned. The perceptual object goes beyond the datum of sense and herein lie the germs of both truth and error.

2. It is not suggested that we sense only one quality at a time and then synthesise consciously the qualities sensed at successive moments so as to get the view of the whole thing. That would be resurrecting the ghost of atomism too late in the day. For the "Gestaltists" have shown clearly, with an astonishing wealth of evidence, that we never perceive isolated sensa and telescope relations into them in order to get the concrete objects of our everyday experience. Rather from the beginning is the given a meaningful whole containing qualities and relations that multiply as we go on attending to the object in its environmental continuum. The "wholeing" is not solely of the mind's own making, nor is it a mere reflection of the objective organisation lying there without reference to the mind; both the mind and the object co-operate in order to present the perceptual situation in its actual form. We have to wrench ourselves from the traditional dualism that regards mind and matter as sworn enemies incompetent to co-operate in any sphere of activity.

No pure, transcendental self is known or knowable by us, and the same is true of the transcendent object or thing-in-itself supposed able to go its own way. Both may exist indeed as vocal twitchings, but we regard all talks about unknow*able* entities as genuine gibberish. Knowability and meaning may be taken almost as synonymous terms, and there is no sense in speaking of an entity that is by definition unknown and unknowable. This does not mean that we cannot think and speak of a time when there was no mind in the universe. Surely we can, and science tells us that life and mind are only recent emergents in the history of the universe. But even when we think of that state of the world, we cannot but apply the categories that have fallen to our lot, and hence it is impossible to think of a world to which none of our categories can be applied.

In this sense we agree with Berkeley and repudiate the suggestion of Kant that we can even think of a world of things-in-themselves. If such a world is so much as thought of as *existent*, we have applied at least one of our categories, and try as we may, we can never think or speak of what he calls a thing-in-itself. The concept of a transcendent entity is a "pseudo-concept", as Bergson says of non-existence. It is only a linguistic superstition which persuades us that every manufactured word is a genuine concept referring to an objective counterpart in reality. Berkeley was himself wrong when he supposed that minds were independent of material things and, at bottom, the only realities. On our positivistic theory, the reality of minds and that of non-mental things stand or fall together. Kant admitted this in respect of the empirical world, and though he does not commit himself as to the nature of the denizens of the noumenal sphere it is safe to conclude that he would not forbid the entrance of non-mental realities into that mysterious "super-world". Such speculation, however, is useless for us, and hence we cannot have the least hesitation to regard the object of knowledge as partaking at once of the nature of the subject and the object.

The subject of knowledge, or mind, is partly an ideal construction based on the data of memory and introspection, and the object of knowledge is equally an ideal construction based on the data of memory and perception. (And the mind of another person is for me an ideal construction based on the data of perception, memory and introspection). The subject, or the object, is an ideal construction; such construction is not, however, the work of a moment but takes a fairly long time and is always subject to revision and modification. The subject has a privacy which marks it off from the object which is public and is open to investigation by every passer-by. We compare notes with one another as to the nature of the external object and in this way can be convinced of referring to the same thing as a continuant. This objective thing cannot be perceived in its entirety in a single act of perception; none the less, we cannot regard it as an idea in our minds or a mere series of isolated qualities or relations. It is a concrete individual thing endowed with the categorial features revealed through perception.

No perception is possible unless and until the categories have been employed. The sensory core of the object is surrounded by a penumbra of non-sensed qualities, and the whole thing is perceived as lying there out in space. This sensory core is what we have called the epistemologically given, but, unlike Kant, we regard it as a spatio-temporal existent. One or more sensory qualities are directly contacted and the sensory core is our hold on reality. It is what we are in direct contact in every perceptual situation, no matter what the distance between it and ourselves is and how many processes, physical, chemical and physiological, take place before we are aware of it.

3. The relation between the sensory core and the act of judging may be said to be one of *compresence,* but compresence in that case is but another name for togetherness stripped of all suggestions of spatio-temporal contiguity or nearness. This direct contact is therefore unique in character, but is quite intelligible, and it serves as the spring-board from which we jump into an extended characterisation of the object by means of the qualities not directly sensed now. This is the ideal interpretation involved as an inalienable feature of every act of perception, and there is no perceptible lapse of time between the sensing and the interpreting which are fused together. Some amount of interpretation is almost instantaneous, and unless our attention is abnormally flickering, the process of interpretation continues for some time.

As every case of developed perception is partly "a kind of habit", no fixed line can be drawn betwen the datum and the interpretational element in the perception of a normal mind. Even the perception of an infant is no exception to this: it also contains interpretative factors, though the element of interpretation, based as it is on previous experience, is meagre in his case. But adult perception is like "a stage Falstaff, so padded and puffed out with stuff that has been gathered elsewhere that the original figure is lost". (*Blanshard, "The Nature of Thought", Vol. I, p. 56*). And the portly Falstaff in his native state, though known perhaps in a baby's perception, we never know in adult life, for the padding has continued ever since infancy.

Even the "gestaltist" Köhler, so insistent on the original "meaning" of the datum, admits that "objective experience is imbued with acquired meaning in many respects". (*"Gestalt Psychology", p. 79*). And Hamilton, ever fond of quantification, declares that the interpretative elements "are always found to exist in an inverse proportion". We need not follow him in accepting this mathematical precision as a general rule of perception. But it is clear that the line between the datum and the interpretation is a permanently shifting line moving further and further away from the given as knowledge develops and with different speeds in different individuals and circumstances.

Spatial metaphors, however, are apt to be mis-leading, specially when it is not possible at the time of the actual perception to distinguish the datum from the interpretative factors, both fused in a single whole called a physical object. The concrete act of perception is a genuine whole and is amenable to analysis upto a certain point; but analysis defeats its own purpose when it forgets that the analysed whole is not a mere collection of isolable parts. The acids of analysis dissolve, as it were, the complex process of perception into a group of simpler processes. But it is wrong to regard each of these processes as a specific kind of knowing, as Kant was tempted to do in regard to sensibility and understanding. The object apprehended in perception cannot be treated as a mere complex of sense-qualities. Such a supposition would make the concreteness or wholeness of sensible objects perfectly inexplicable. As de Laguna has shown, the belief that the child experiences colours, sounds, or pressures long before he sees balls, hears voices, or feels solid objects, is without foundation. (*"Journal of Philosophy", Vol. xiii, p. 534*).

4. The distinction made by Russell between knowledge by acquaintance and knowledge by description is essentially a repetition of Kant's mistake in a new dress and surroundings. While the former is a two-term relation, the latter is a multiple one. In knowledge by acquaintance, the two terms, act and object, are inseparably married, so that the independence of the act is reduced to a vanishing point. "No error must be allowed to enter into this fast and imperturbable wedlock; the wife has it all her own way; the husband pays the piper, but she calls the tune". (*Dawes Hicks, "Critical Realism", p. 20*). The act, therefore, is reduced to a static condition of acquiescence in what is given, and it is no wonder that Russell abandons later the "act" as "unnecessary and fictitious". (*Cf. "The Problems of Philosophy", pp. 72 ff; "Mysticism and Logic", pp. 209 ff; and "The Analysis of Mind", pp. 17 ff.*).

The shadowy entities called acts are non other than the disjointed, fragmentary "impressions" of former days with more pretence to be things of importance. But it is impossible to "construct" logically or otherwise the commonsense world of ordinary exprience from a heap of "helter-skelter sense data". (*"External World", p. 107*). A single sense-object is a complex unity, and no group of wandering adjectives or floating *sensibilia* can make up the concrete reality of the individual existent. The "logical" web of the external world constructed by Russell is an arbitrary edifice identical, by no means, with the throbbing, warm-blooded world in which we live and move.

Besides, no knowledge is acquaintance in the sense of wholly passive receptivity christened acquaintance, simple apprehension, intuition, or immediate experience. The bare compresence may be called acquaintance, and that is necessary but not sufficient to constitute articulate awareness which is judgment and, if correct, knowledge.

5. It would, however, be wrong to run away with the idea that the datum is absent any time in any genuine perception. The *pure* datum is indeed an abstraction,—a limiting concept, but so also is the *pure* interpretation. The actual object of perception is always a datum suffused with interpretation, and if the pure datum is a hypothetical limit, the same is true of the bare interpretation. We have no business with the pure datum, because the moment we recognise it it is no longer pure; it has been interpreted: and it cannot exist uninterpreted in the life of a normal adult. But from this it would be wrong to conclude that the datum is but another interpretational element. The datum, as Stout says, "does not present itself in isolation as something self-complete and self-existent". ("*Studies*", *p. 309*). But it exists none the less in the perceptual situation as a distinct, though inseparable, factor.

The absolute idealist, however, finds it very congenial to his metaphysics to resolve the datum into interpretational elements, for that enables him to exhibit finite existents as mere connexions of content within the Absolute Experience. But knowledge without a basis in immediate apprehension or acquaintance "would be like a lever without a fulcrum". Some amount of direct contact we have in every perceptual experience, if only for the fact that perception does give us *new* information throughout our life.

To that extent we must admit that knowledge has an "intuitive" basis. But as the term "intuition" has a levee of suggestions relating to different spheres of life, it is better to call direct cognition "acquaintance", remembering all the time that acquaintance does not amount to full-fledged knowledge or judgment.—Now we can realise the significance of Hume's dictum that the *existence* of no thing can demonstrate the *existence* of any other. All statements concerning the existence of things are finally verifiable only by a direct appeal to facts in perception.

6. All genuine perception, then, has on its objective side a complex situation containing physical things possessed of qualities and

related to one another in various ways. Interest decides which among these will occupy the focus of consciousness, the rest lying on its fringe or threshold. It is not necessary to attempt here a *genetic* account of how we carve out of the presentational continuum distinctive blocks known as the things of our every-day experience. Such an account must take note of both subjective and objective factors that co-operate in presenting us with "things", regarded as substances at once continuant and qualitied. The common or similar *interests* that psycho-physical organisms have, and the relative *independence* and *differences* that the parts of the continuum have in regard to one another, are together responsible for our bestowal of the honour of *thinghood* on its specific parts. It would also be necessary to describe the complex processes of sensory correlation, vertical and horizontal, as well as the recognition of an identity of continuance in the midst of the alteration of some of the states and qualities of the object.

There is a sense in which every man enters the world by climbing down the Tree of Porphyry. Every child has to achieve for himself the assimilation and differentiation necessary for becoming familiar with the world so full of surprises for him at the start. Just as he has to acquire certain behavioural mechanisms for manupulating things and moving on two legs, he has to learn certain perceptual and intellectual correlations for knowing the world around him. The course of adjustment never runs smooth; but it runs, none the less, throughout one's life. Certain correlations we can effect at birth, certain others we achieve in infancy and childhood, but certain others are almost thrust upon us, and the process continues so long as the heart-beats do not stop. The power of abstraction grows with years and education, and the facility to deal with concepts increases accordingly.

7. The formation of concepts is an elaborate process, but concepts as static images are not stored up anywhere in the mind, whether before or after birth. "Concepts" or general ideas, just like "innate ideas", are to be torpedoed wholesale by logic, if "concepts" means buoyant bits of mind-stuff drifting in the "stream of consciousness". The concept can be accepted only in the sense of conceiving, which means referring to the members of a *class* of objects. Pseudo-concepts have no correlates in reality; but genuine concepts refer to a class,—though in the case of actual things or concrete individuals, the

objective correlate may be *known* only vaguely in the form of resemblance or similarity.

We need not consider here the question of determining the genuineness of a concept; but it is clear that where we deal with abstractions, logical or mathematical, it is the definition that determines the class. Hence in these cases the universal or the objective counterpart of the concept can be easily identified. But in regard to concrete things, similarity, i.e. the universal vaguely apprehended, plays the dominant role. Similarity, however, is not intelligible without *identity* of kind, and hence we would not be far wrong in regarding most cases of perception as involving conceptual thinking as one of their aspects. But we cannot countenance the view that *every* act of perception involves concepts, for the Kantian dictum that "percepts without concepts are blind" is not correct as a general description of perceptual judgments.

This is not to suggest that perception is all a matter of *data* or given materials. On the contrary, the whole of our argument is a protest against a pure objectivism no less than against a pure subjectivism. Every perceived object is a sort of mongrel, and because of this dual character it can sometimes deceive us about its real nature. Things are not always what they seem. One of the aspects of a perceived thing is the datum of "given", and the other is the interpretative factor or the "taken". The "taken" element, however, cannot straight off be identified with what is called a concept. The concept is conceiving and when it refers to physical things as involved in perception, the objective correlate is a universal whether clearly or vaguely apprehended as belonging to the concrete individual. But every act of perception cannot be regarded as partly conceptual in this, the only acceptable, sense. For though perception involves recognition, the recognised object, which is an identity, need not be in every case an identity of *kind*; it may be a *numerical* identity, described as "*substantial*" in the sense of "continuant".

Every time I sit at my table in the study, I perceive the objects that lie there usually; but it cannot be said that every perception involves a concept and I know a *fresh* aspect of the familiar objects whenever I approach them. I do certainly perceive them on each occasion and know them, but this sort of perceptual knowledge cannot be said to be "conceptual" in the usual acceptation of that term. It is clear, however, that I may be deceived even in such cases; for any object may have been replaced by a perfect duplicate, and my judgment, "That's my ashtray", (e.g.), will be false, if as a matter of fact a fellow ashtray has usurped its place.

It will not do to say that this judgment is also conceptual, because "my ashtray" is surely a general term standing for a concept. Brevity is not only the soul of wit; it is also a direct consequence of the shortness of life, the limited amount of mental and physiological energy, as well as the superfluity of stating the obvious explicity. Unless a man considered most of his fellows fools, he would not waste time over niceties of statement. And since no one regards himself as foolish, he will not be verbose when talking to himself. In perception even "speaking to one-self" is not usually overt or explicit. Hence the judgment, "That's my ashtray" is really a condensed sentence equivalent to "the object over there is *the same as* the particular ashtray that belongs to me and has been there for some time". Every particular word in this sentence is in a sense a universal, but the sentence as the whole unit of discourse is unique; and it refers not to a general aspect of the perceived object, but to its numerical identity in continuance that cannot be resolved into a qualitative or any other kind of identity.

The universal is not, however, a continuant but a recurrent, though both the recurrent and the continuant are reducible to an identity of reference which is a category in our sense of the term. But categories are also concepts in another sense, explained earlier, and in that sense all perception may be called conceptual. That, however, would render superfluous the retention of the two terms 'conceptual' and 'perceptual' in the explanation of perceptual knowledge. All perceiving is categorising, but not all perception involves conceiving in the acceptable sense of the term "conceiving". And if "conceiving" means *abstract thinking*, no conceiving is involved in perception which is directed upon concrete objects or physical occurrences.

It is sufficiently clear that "concept" is not a safe term to use, because of its various meanings in different contexts. Kant set the fashion in theory of knowledge to speak of *all* perception as inescapably conceptual, but his own clear-cut distinction between categories and concepts missed its mark by viewing the one as *ways* of knowing and the other as *contents* of knowing, as if there were a fundamental difference between these two factors of perception. The relation between concepts and categories (in our sense) may be explained further by a Scholastic mode of expression; the categories are the *ratio essendi*, but not *the ratio cognoscendi*, of the ordinary concepts, both "categories" and "concepts" being used in the sense of "acts of categorising", and "acts of conceiving". No conceiving, or perceiving, can take place without involving categorising as one of its aspects, but categorising cannot be *known* without reflecting on the nature of conceiving and perceiving. As we have protested against the view that categories are somehow contained in the mind before perceiving takes place, the statement that the categories are the *ratio essendi* of concepts would not, however, be correct if the phrase "*ratio essendi*" suggests *priority* of existence. And a better description of the situation would be that the concepts are the *ratio cognoscendi* of the categories. But it is dangerous to revive old controversies instinct with multifarious implications and we had rather state our position in our own terminology.

8. We should like to restrict the term "concept" to *abstract thinking* as concerned with logical and mathematical abstractions and forbid its use in connexion with perceptual judgments. Perception, as mentioned already, does not deal with a bare datum, but with a "given" charged with a "taken"; and this "taken" element is grasped by imagination, which simply means referring to an object not compresent with the senses. *All perception is, thus, imaginative sense-apprehension, both the imaginative and sensory aspects of the mental act serving a unified or integrated function* in relation to physical objects or the things of our every-day experience.

It is not quite accurate to describe the imaginative aspect as an "introjection" or "projection". For there is nothing to be projected *from* the mind *into* the physical object even in the case of illusory perception .Apart from the unhappy suggestion of representationism, such a description fails to emphasise the "out-there-ness" even of the "taken" element of the perceptual object. Besides, the term "taken" is not quite felicitous for a similar reason, and the situation is best described, we think, by designating the two factors as *sensory* and *imaginative reference*. Reference is a unique feature of mental acts, and the object referred to (the referent) may be either a sensed aspect or a non-sensed aspect of concrete things. In conceptual thinking the abstracted aspect is deliberately considered by itself; but in perception even that aspect which does not stimulate its proper sense at the time of a particular perception is apprehended as belonging, then and there, to the perceived object. The referent of the imaginative aspect of that perception was previously the referent of the sensory aspect of another, and it may again figure as the referent of the sensory aspect of a future perceptual judgment. But since it is not the sensory referent in that particular perception, there is a loophole for error or illusory experience. It is thus alone that we can account for both the occurrence of delusive experience and the felt givenness of the non-sensory aspect,—which no theory of direct realism, or of representative perception, can explain convincingly.

9. New Realism, which arose as a reaction against Absolute Idealism, regards knowledge as an "external" relation on a par with any relation between physical things. The mind itself is viewed as a cross-section of the universe, capable of knowing all objects directly in a literal sense. Nothing comes between the mind and its objects in knowledge which is a two-term relation. The new realist would have no truck with any form of subjective entities that go by the name of images, or ideas. The distinction between reality and appearance wholly disappears, and the truth of finite judgments seems to be quite secure.

But the revolutionary in his zeal overshot the mark and came to embrace a fantastic view of delusive experience. While the absolute idealist abolished the *datum* of perception, the new realist liquidated the *interpretation*, the mind being, for him, a purely passive entity confronted face to face by the external object. As a result error cannot be accounted for, and the new realist makes heroic efforts to explain it even by resorting to absurd assumptions. Perceptual errors are, in his view, cases of direct contact with objective contradictions "related after the manner of opposing forces". (*Cf. "The New Realism", pp. 480 ff*).

But if the object of an experience is actual and existing, the experience is not erroneous in any intelligible sense. Further, the term contradiction is not at all applicable to *facts*, including opposing forces, but to mental *acts* that are judgmental. In truth, the new realistic account fails to put its finger on the point that is to be explained and may be taken only as a statement of the difficulty involved in a situation of error. The new realist thinks he has explained the situation because he glibly equates judgments, propositions, acts, facts and existents. (*Op. cit., pp. 252 ff*).

10. Laird makes a distinction between perception and non-

perceptual cognition, and holds that the objcet of perception is directly cognised. But in going to explain errors of perception he gives his whole case away by making a distinction between reality and appearance. "That which confronts the mind", he says, "in every species of apprehending and not merely in judgment........may or may not be as it seems". (*"A Study in Realism", pp. 41 f*). He thinks in the end that non-veridical perception is due to incorrect inference, and is itself not erroneous. Alexander offers a somewhat similar explanation of error in terms of perspectives. Now, it is true that some cases of perception, complex in character, do involve inference; but the same cannot be said of all perceptual judgments some of which are non-veridical.

A way out of this difficulty may be sought by suggesting that the object of perception is not a thing or its quality but a "look" or appearance of it. As Prof. Prichard puts it: "We *perceive* things as they look and not as they are". But "we know things; not appearances. We know what things are; and not merely what they appear but are not". He makes a clear distinction between perception and knowledge, and charges Kant with having wrongly identified them. "Our apprehension of what things *are*", he continues, "is essentially a matter of thought or judgment, and not of perception. We do not *perceive* but *think* a thing as it is". (*"Kant's Theory of Knowledge", pp. 91, 99; cf. p. 72*).

Now, a few other thinkers also have held that perception is not knowledge at all and in this way they find it easier to explain perceptual errors. If perception means to them what Russell calls "knowledge by acquaintance" and Hobhouse names "simple apprehension", then we can allow that perception is concerned with appearance only. Perception is, however, non-veridical in some cases, because it is concerned not with mere "looks" or "appearances", but with integral wholes or things of our every-day experience. Mere apprehension is neither correct nor incorrect, and is, admittedly, non-judgmental in character. But questions of truth and falsity must arise in connexion with perception which is an interpretative awareness of things. It is wholly wrong to regard perception as a passive apprehension of appearances or qualities. To do so is to equate it with mere sensation which is a sheer abstraction not to be met with in the life of a normal adult person.

11. Those who regard perception as a two-term relation try to

dispense with either the "given" or the "taken" factor of the concrete situation. They fail to explain the truth and the falsity, respectively, of our judgments which may be true as well as false. Others shift the emphasis from the "given" to the "taken" element as occasion demands and come in the end to posit a third factor which shares in the characters of both.

But the admission of a third factor at once makes perception a three-term relation such as representationism urges. The traditional theory locates this third element in the mind and tends to view it as mental whether in the form of an act or in that of a content. The new representationism known as Critical Realism regards this third factor as a "logical" entity inhabiting a neutral land in between the physical and the mental. The theory arose as a protest against the excesses of new realism, and sought to explain perceptual errors by means of a divorce between the existence and the contents of perceived objects.

Qualities of things are viewed as groups of "essences", or "character-complexes", and they alone are supposed to be known directly by the percipient. The essences are isolable from the existent objects, for they are not particulars but universals and entitative in nature. Though essences of things, "they are not actual portions or selected aspects of the objects perceived". Hence in knowing them we can both know the physical objects and be at times misguided about their nature.

In veridical perception the essences do really belong to their objects and thus reveal their true character. But in wrong perception the essences belie their nature; they do not really belong to the objects whose essences they seem to be. The character-complexes are called essences in order to account for the correctness of perception: and they are regarded as isolable entities in order to leave a loophole for the occurrence of error. But there is a curious wobbling as to the exact status of these entities. They are now declared to be "in part genuine aspects of outer reality", and now presented as logical entities neither physical nor mental, and again viewed as mental contents hardly different from their traditional prototypes. "The critical Realist", we are told, "agrees with the Idealist that the content is mental, but strikes a counterblow by asserting that knowledge is a claim to know an object in terms of this content". (*"Essays in Critical Realism", pp. 19, 20, 207*).

In fact, the 'critical' realist strikes right and left. He is not sure whether his nondescript data are universals or particulars, essences or appearances, and physical, mental or neutral qualities or entities. The separation of characters from existence reduces them to bare abstractions which as such are of course universals: but that does not prove that they are the objects which in perception we are in direct contact with. The actual qualities of things are particulars and not isolable from their existence as the critical realist fancies. If perception is no construction of physical things out of impressions and ideas, neither is it a synthesis of logical abstractions into the concrete objects of our every-day experience. Critical Realism reduces itself to a sort of fictionism by its advocacy of the divorce between existence and character; and a similar fate seems to overtake any other brand of representationism, ancient or modern.

12. But representationism is accepted in some form or other by the sense-data theorists like Russell, Moore, Broad, Price and Ewing. Dr. Broad criticises several varieties of these theories but himself accepts a mixed type and regards sensa as neither purely physical nor purely mental, but partaking at once of the nature of both. "The objective constituents of perceptual situations are, on this view, particular existents of a particular kind; they are not physical" (because they are not, in any plain straight-forward sense, in the one physical space in which physical objects are supposed to lie); "and there is no reason to suppose that they are states of mind or existentially mind-dependent. In having spatial characteristics, colours etc. they resemble physical objects, as ordinarilly conceived; but in their privacy and their dependence on the body, if not the mind, of the observer they are more like mental states". He gives "the name of *sensa* to the objective constituents of perceptual situations, on the supposition that they are not literally parts of the physical object" which we are said to be "perceiving", and that they are transitory particulars of the peculiar kind which he has described. He has to postulate "a peculiar kind of trans-physical causation, according to which the occurrence of certain events in a certain brain and nervous system determines the occurrence of a sensum with such and such a shape, size, position, and sensible quality, in a certain sense-field of a certain sense-history".

It is, however, difficult to establish correlations between different sense-fields, sense-histories, and construct out of them the one physical world in which we all seem to live and move and have our being.

In spite of his admission of so many "specific" feelings, relations, references and entities, Broad finds it necessary in the end to regard "the notion of physical object" as a "*category*" and not an ordinary concept "abstracted from the data of sense". This concept, he says, is not "got out of" experience until it has been "put into" experience. "It is best described as an *innate principle* of interpretation which we apply to the data of sense perception".

But the question is whether the application of such an innate principle is justified or not. And to this question, so far as we know, Broad gives no answer; he is not even certain as to the relation between ordinary concepts and categories. (*Cf. "The Mind and its Place in Nature", pp. 180-208, 217-20*). But the acceptance of sensa as a peculiar class of entities, half-physical and half-mental, and neutral in certain respects, and its consequent phenomenalism make it imperative to cast about for a simpler theory that justifies our conviction as to the reality of the concrete objects of experience.

13. Dr. Ewing also accepts a representative theory of perception, and points out that it should not be confused with a representative theory of *knowledge or cognition*. The sense-data are representations, but they do represent or stand for things. He finds it necessary to postulate this type of entities for the explanation of perceptual errors. Ewing is careful to distinguish his view from the traditional representative theory of cognition (of Locke, Berkeley and Hume) by insisting that the sense-data cannot be regarded as mental, as they supposed. Stout once accepted a brand of the older theory, but later on came to formulate one that appears in its full-fledged form in Ewing. (*Cf. Stout's "Studies in Philosophy and Psychology", pp. 372-75*).

"The immediate objects of sense-perception", says Ewing, "are far from being mental in the sense in which an act of thought or will is so. They have at any rate far more in common with the physical as usually conceived by us than they have with the mental, at least apart from their causal properties. They may be causally dependent on us, and they may fail to produce the effects that similar physical objects would, but in themselves they seem rather to fall on the physical side of the dividing-line, as is proved by the fact that any idea which can form the concrete qualities of matter must be entirely derived from them. But it would be best provisionally to class them as neither physical nor mental, giving them an intermediate position between these two kinds of being".

This provisional classification is, however, *final* for Ewing, and he includes in this class of entities *images* as well. The distinction between sensa and images is exactly that drawn by Hume, viz., vividness and faintness, though Ewing reflects that this being a quantitative difference, they do not differ in quality at all. There can be no doubt, then, about the representational character of sense-data, and Ewing is even ready to accept a theory of "*creation*" as to the origin of this class of entities. He recognises the non-descript character of these entities, but insists that images at any rate will have to be admitted; and since images are hardly different from the sensa, he asks us not to apply "Occam's razor" to the latter. The only alternative to his theory, he thinks, is some form of New Realism. (*Ewing, "Idealism",. pp. 286 ff.*). But surely there are other alternatives, and there is, moreover, no reason for admitting images as *contents* of our imaginative acts. We need not, in that case, cling to the sense-data as diaphanous entities sometimes revealing to us, and sometimes concealing, the physical world which is hypothetical in the end.

14. Prof. Moore cannot come to a conclusion as to the status of the sensa, partly because he cannot extract himself from their clutches strengthened by the mathematical philosophers, and partly because his penetrating analysis indicates that they must be physical in character. (*Cf. "Philosophical Studies", and his article, "A Defence of Common Sense"* in *"Contemporary British Philosophy", 2nd series*). He comes at last to realise that the sensa are at any rate secondary in character, and their reality is derived from that of the physical objects. The very admission of sensa, however, is necessitated by regarding them as entitative in nature; and once we refuse to look upon them as entities, primary or secondary, there is no reason for postulating them at all. In a recent article Dr. Moore confesses that he is "completely puzzled about the matter" and does not see any way of settling the question. (*Cf. "The Philosophy of G. E. Moore", ed. by Schilpp, p. 659*).

If we were really fenced off from the physical world by a network of substantial sensa, would it not be passing strange that we have somehow acquired insight into the nature of that world? The proof of the pudding is in the eating and the genuineness of a belief is tested by our readiness to act upon it. The whole of our practical life requires belief in the reality of the physical objects, and Dr. Johnson's blunt method of refuting Berkeley is not totally pointless as some philosophers suppose. The independence of the physical objects, displayed in going against our will and catching us unawares, cannot be maintained if we reduce them to merely hypothetical agencies, whose shadows are the sensedata,—"an unearthly ballet" of logical abstractions. As Ledger Wood says: "The sense data of epistemology are indeed the last vestiges of an out-moded sensationalistic psychology". (*"The Analysis of Knowledge", p. 55*).

15. Here we must realise a point of utmost importance. Perception is normally, i.e. in most cases, veridical, and only in a few cases non-veridical. Hence, whether we are able to explain the occurrence of illusions or not, the normal, veridical perception must be justified by all means. The physiological and psychological data for abnormal perception, we fear, are not yet sufficient to enable us to formulate a *completely* satisfactory theory of non-veridical perception. Is it then legitimate that in our enthusiasm for the explanation of incorrect perception, we should accept such a theory as can lead only to phenomenalism or solipsism?

It will not do to say, like Russell and others, that one can be a solipsist in theory and a realist in practice. For such a person has not really thought out his philosophy. Since solipsism makes nonsense of all our judgments and makes us live in a fool's paradise,—every one in his own,—solipsism has definitely *to go*, as also all that *implies it*. And phenomenalism cannot be maintained in the end because its attempt to distinguish the true from the false is a signal failure. But we would make bold to go a step further and declare that any theory that sets up sensa or sensedata as a group of neutral entities which mediate between the mind and the physical object must also be rejected wholesale without any heartache. For the admission of these neutral entities leads to many more difficulties than it claims to obviate. The physical object, on such an assumption, has to be conceived either as a logical construct, or as an inferred entity, or as a thing-in-itself purely hypothetical, or as an object known by instinct.

The consequences of a representative theory of perception were drawn clearly by Hume—"the greatest representationist of them all". Hume it was who said that reason was unable to justify our belief in the existence of physical things and that instinct must come to our rescue. This was the only possible alternative for him, as he could not shake himself off from the shackles of representationism. Do the proponents of the causal theory of perception realise that Hume found himself in this predicament precisely because of his twin fads of representationism and causal argument for the independent existence of physical objects? He falls back on custom, instinct, and "human nature" for the explanation (*not justification*) of our belief in external objects, and is even ready to allow that "there is a kind of *pre-established harmony* between the course of nature and the succession of our ideas". (*"Enquiry concerning Human Understanding", Sec. V., Part II, Selbybigge edtn. of the "Enquiries", pp. 54 ff.*).

16. Let us then proceed to discuss the nature of perception as the imaginative sense-apprehension of physical objects. We will get immense help in the matter from psychologists who have given correct descriptions of what actually takes place in a perceptual situation. Perception, they say, is no deliberate synthesis of isolated qualities or entities into integral objects. It is a unitary reaction of the psycho-physical organism to its environment and cannot be viewed as a juxtaposition of diverse stimulations.

The unitary character of perception is clearly brought out in what is known as "complication" or "pre-perception". A distinction is sometimes sought to be made between these two by saying that while complication involves modification of the sensory core of perception, pre-perception is a process of *supplementation* or filling in. But this is no essential difference, and both of them enter into every normal perception. "The sight of ice", says Ward, "yields a forefeel of its coldness, the smell of baked meats a foretaste of their savour". (*"Psychological Principles", p. 186*). Ice is not merely *thought of* or inferred as cold: it looks cold. The "fore-feel" of coldness is due to a previous tactual experience. Both the sensory and the imaginative elements coalesce or blend into a single, complex perception. "The residue of past sensations of cold become entwined with our visual sensation so as to modify its character as an immediate experience". "The reproduction manifests itself......as a modification of the visual experience—an addition to its unanalysed complexity". (*Stout, "Manual of Psychology", pp. 205 ff*).

It is a misrepresentation of the actual situation to say that the sensory element leads to the imaginative one as a *suggested* idea, or an inferred characteristic. We do not wish to deny that an act of perception may lead to an inference. Often it does; but our contention is that the act of perception is not itself inferential, nor does it contain a suggested idea projected into the sensory core of the perceived object. The ability of the mind to refer to an object even when it does not stimulate our sense organs is a recognised function, and for the fulfilment of this function it does not require any ideas or images somehow stored up in a sub-conscious or unconscious cavern.

Even the "depth-psychology" of Freud and others does not necessitate the postulation of distinct cavities or niches within the extensive territory of the mind. The mind can sweep in a trice from China to Peru, but it does not do so by moving from one idea to another located within its bosom. All vicious spatialisation of mental events, against which Bergson has cried himself hoarse, must be definitely abandoned if we would give a satisfactory account of our mental life. We have seen that sometimes spatial metaphors have to be used, but we should not forget that they are, after all, figures of speech not to be taken in their literal acceptation. They are somewhat analogous to Platonic myths, introduced for the purpose of suggesting an explanation not adequately known; but the moment we regard them as genuine explanation, the whole body of our knowledge is threatened with an imminent collapse. When psycho-analysis is supplemented by a collateral physiological analysis, we shall feel no temptation to spatialise the mind itself in the event of the inadequacy of our knowledge of the psycho-physical organism.

17. Perception goes astray when the imaginative factor is not actually correlated with the sensory core in that particular context. No perception is so sense-bound or tethered to the sensory element that there is no room for error. When the integral reference is in accordance with the whole referent, the judgment is correct; whenever there is any discrepancy or non-conformity, the judgment is incorrect. Truth means the congruence betwen the reference and the referent, and falsity means any non-congruence between them. *Why* such discrepancy may occur we have seen from the complexity of the perceptual situation. But *how* it occurs in particular cases can be known only by an exhaustive analysis of the whole situation. Such analysis must take into account physical, physiological and mental facts and 'laws'. It is only a one-sided theory that ignores relevant facts and is then perplexed by the difficulties of explanation. Once

we take a full view of the concrete scene, many puzzles of our own manufacture will vanish, though a completely satisfactory explanation is not perhaps available because of our inadequate knowledge of abnormal experiences like hallucinations, dreams and the "visions" of lunatics.

The "visons" of a lunatic may be either *purely imaginative* experiences made very vivid by a temporary dissociation from the sensible world, or they may be *illusory perceptions* with any sensory core that his whim may chance to fasten upon. It it not necessary to suppose that he is perceiving something *in vacuo* with no actual sensory core for the imaginative element to coalesce with. And if, when all the doors of his senses are closed (—an impossible case), he goes on having his hallucinations, we can surely suppose him to indulge in, i.e. be a victim to, pure fantasies made only too vivid by a severance from all sensory contact with the external world. Is it *necessary* to suppose that he is presented with a sense-datum which "is not only dissociated from a particular material object, but belongs in no way to any material object at all"? (*Price, "Perception", p. 63*).

Dr. Ewing thinks that in such a case the only alternative to a representative theory is to hold that what the victim perceives in these cases "is space (or space-time) as a substantival entity appearing to have certain qualities, which is a very difficult view to maintain." (*"Idealism", p. 282*). Empty space is another name for vacuum, and it is not imperative to regard the vacuum as a substitute for the sensory core of the hallucinatory experience. There is no vacuum, in a strict sense, anywhere in the universe. Hallucination is either perception or imagination; in the latter case the question of the locus does not arise, and in the former, the sensory core is provided by things in the vicinity. Even when the victim locates the object in the air, the sensory core lies in a visible or tangible part of the presentational continuum. There is no need for the introduction of the enigmatical entities called sensa or sense-data.

What is true of hallucinations is also true, *mutatis mutandis*, of dreams which are almost always mixtures of illusions and hallucinations. The case of double vision need not be considered so baffling as Price, Ewing and others suppose. "Double images", (strictly "double sensations"), are not ordinarily noticed by normal persons and they appear in a few cases under very special circumstances, "The special conditions......are that the eye should be fixed on one object, and the attention fixed on another, either beyond it, or in front of it". (*Stout*, "*Manual*", *p. 489*). The person who sees a "double image" is conscious all the time that both the "images" refer to the same thing. Hence the sensory elements are blended and referred to an identical object, and there is no error at all. The case is somewhat similar to the phenomena of "after-images" or "after-sensations", and it is unnecessary to suppose that both the "images" remain as disparate entities hanging in the mid-air. Perception is no mere acquaintance with an isolated datum, but a datum interpreted, and the "double image" is interpreted as referring to the same thing at the very moment the experience occurs. How can we then suppose that two data have left their moorings and are drifting hither and thither, wafted by our whim to see the object double? The phenomenon may even in some cases be due to preperception, or wishful thinking.

As for other cases of so-called illusion, viz. seeing a straight stick bent when half submerged in water, or parallel railway lines converging at a distance, the obvious solution is that we never perceive a thing all by itself, but as situated in a particular environment, and when the perception is correlated with its proper objects, there is no illusion at all. Whether any perception is to be regarded as illusory or not is to be decided by bringing the perceived object within the range of relevant senses. But the important point for the epistemologist is not to decide whether a particular experience is to be called illusory or not, but how to explain it in terms of empirical data, always bearing in mind "the law of parsimony" enunciated by William of Occam. His "razor" must be applied mercilessly to any entities for the assumption of which there is no good reason, even though "the world", as Ewing says, "does contain an incredibly great variety of things". Epistemology cannot give its blessings to the postulation of countless entities and spaces in the royal manner of modern mathematics. The functions of the two studies are not exactly similar, or on a par with one another.

18. Let us take a few examples of perceptual assertion: "The ashtray is dirty", "That is an inkpot", "A dove is cooing on the yonder tree", "An aeroplane is flying through the air", "The dish is savoury", "It feels so soft". All these are indicative sentences and symbolise judgmental acts, each containing a propositional reference. In every case there is a datum and an interpretative element, but they

are of different forms in the different cases. In "that is an inkpot", the datum is an existential pattern and the interpretation involves an identity of kind recognised in the form of a certain resemblance, an "ink-pottishness", characterising the pattern. But in the case of "The ashtray is dirty", the datum (epistemological, of course, which means the datum for the person who makes the judgment) is an ashtray and the interpretative factor is "dirtiness" found to be attached to the datum. The datum varies from case to case, and when it is very complex as involving much derived from previous experience, the cause of error may lurk in the datum itself. We need not discuss the other examples individually, for they have been introduced only to illustrate the diverse sensory elements correlated with our different sense organs.

19. We will proceed now to vindicate the cause of propositional reference in perceptual assertions. For it has been supposed that even if the proposition is admissible in other cases of cognition, perception does not involve it, and some have gone to the length of holding that perception is not knowledge at all. It is our contention that perception (when veridical) is surely knowledge and that it does involve the proposition, as it is not possible to describe the nature of truth without the help of the proposition. The perception of the dirty ashtray, for instance, is a genuine assertion (or primary judgment), for without the assertive attitude there is no belief, no objective coercion of subjective activity and hence no knowledge at all. Those who refuse to regard perception as a case of knowledge must either reduce it to a conditioned reflex, or to an intuitive apprehension, —the only two *plausible* alternatives in the circumstances. We have already argued that such theories make communication in a true sense impossible and hence without further ado we can reject them in the present context.

The mental attitude in regard to the perceived object in the above case is expressible in the sentence, "The ashtray is dirty". I need not frame an explicit sentence to *express* my attitude of *assertion* or its *propositional reference*, but both the factors are incipiently present, for otherwise I could not communicate my perception at all. It is necessary to recognise the distinction between the act of asserting, the proposition as an aspect of this act, and the sentence that expresses the assertive reference, though they are inseparable in the actual perception as a communicable item of experience. At the time of perception I believe in the reality of the object in its complex form, and the truth or falsity of this belief is determined by the relation between the real object and the propositional reference. Verification is impossible without the articulate reference as asserted or believed, and is meaningless without the relationship between the proposition and the fact.

It will be seen that truth means the conformity between the relevant fact and the propositional reference which is an inalienable factor in the concrete act of belief or assertion. The act of perception may, and usually does, take place without being expressed in a sentence, but both the act of asserting and the propositional reference are invariably present in every case of perception. It is not the case that because the object itself is present the reference is otiose, but rather that because the object is present in its total integrity, the reference (which is an intent) is realised, and hence the perceptual assertion certifiable as veridical.

20. The familiar dilemma with which the correspondence theory is confronted, that correspondence is either superfluous or impossible, misses the point altogether. Correspondence does not entail any absolute gap between the mind and its object, nor does it imply that in the case of veridical perception there is no correspondence. The contact between the mind and its object in perception is never fully direct: it is partly actual (existential) and partly ideal (imaginative). The sensory core is the point of actual contact, and the interpretative factor is the ideal robe into which it is put, or rather, is found to be present. If the robe fits it, it accepts the present; but if the dress is a misfit, it throws it away. Metaphors apart, if the imaginative factor is really pertinent to the situation, the judgment is correct or true: if there is any irrelevance or incongruence, the judgment is incorrect or false. But at the time I make the judgment (i.e. have the perception), I believe myself to be in direct contact with the whole object (the sensory core along with its imaginative coating), though I may not make any declaration of the belief to myself, or to others. Ordinarily, there is no inference in the act of perception itself, and hence it is that I am convinced of the integral object having laid itself bare under my 'gaze'.

While in every perceptual assertion there is a belief in the reality of the whole object, only in a correct perception is there conformity between the assertive reference and that object. The percipient, however, is not usually aware of the conformity, but may become aware, if he so desires, at a later moment. If some one could read his thoughts, *he* would have noticed the conformity at the very moment of perception. Hence it is wrong to say that if the percipient is in direct contact with the object, there is no congruence or correspondence.

Besides, it is a mis-statement of facts to contend that if there is conformity, the knower must himself be aware of it at the time of perception or not be aware of it at any time. Such a contention commits "the psychologist's fallacy" by reading into the thought of a percipient a fact he does not himself notice but which is cognizable by the psychologist. Even when the percipient himself becomes aware of the conformity, that is a case of introspection which is always retrospection,—looking back, in the present instance, to the conformity between the reference of the previous state and the referent, the latter being ordinarily the object of a present perception as well.

It would be absurd to urge that because the original perception is no more, the relation of correspondence cannot be the object of a present judgment. The obvious reply is that the congruence in question is not between a transitory mental state and a relatively stable fact, but between the fact and the timeless propositional reference embodied in words. When such an attempt at verification takes place, the judgment has already been expressed in words (sensible or imaginative), and we can easily determine whether the objective reference is conformable to the fact or not. As for other possible objections to the correspondence theory in the form advocated by us, we will consider them in connexion with introspective and mnemic assertions, and it is not necessary to anticipate them just now.

21. The determination of the truth or falsity of a factual assertion involves comparison between a proposition previously asserted and another asserted later on as the referential aspect of the act of verification (which is perceptual); and this shows that a *criterion* of truth is coherence between different asserted propositions relating to the same situation. But a mere comparison of such propositions and the discovered consistency between them cannot definitely establish the truth of the first assertion. What we mean is this: a mere coherence among factual assertions taken out of their context (and therefore considered in the abstract) cannot *finally* determine the truth or falsity of such an assertion, unless a direct appeal is made

to the fact itself. This appeal takes the form of a perceptual assertion, affirmative or negative. (The distinction between affirmation and negation will be discussed in the sequel). We must realise that in determining the truth or falsity of an assertion about concrete facts of the external world, we must in the end fall back on the sensuous core which is the point at which we 'touch' reality. The correspondence theory interpreted thus does not wholly reject the intuitionist and coherence theories, but accepts the kernel of truth in either to the rejection of their deceptive rind or fibre.

The assertion "The ashtray is dirty" is not quite simple. For here the datum is the ashtray, itself containing many interpretative elements derived from previous experience. When this assertion is false, its falsity may be due either to the present interpretation, or to the present datum, itself a complex affair. The object wrongly perceived may not be dirty, or it may not be an ashtray at all, but a flower-vase powdered with pollen.

Hence the smaller the part of interpretation in a perception, the greater is its chance of being correct. It is not possible, however, to eliminate completely the interpretative element and know the sensory core in its naked form. That is an ideal to which we can approach asymptotically in an attempt to analyse the perceptive experience, but which we can never reach actually. If, *per impossible*, we performed that feat, the rusulting experience would not be knowledge at all, but a "blooming, buzzing confusion" within which no distinction is discernible.

Perception, though it has a contact with reality at the point of the sensuous core, involves much that is indirectly procured, and hence the risk of error cannot be wholly got rid of. This does not mean that we can never make an assertion which is completely true; it only implies that the *risk* ever remains, though many, indeed most, of our perceptual assertions are correct without any proviso or limiting qualification.

Hence we reject the Absolutist dogma that "no judgment is wholly true but always partly false". The rule of caution that we offer in its place is that no judgment is wholly free from the *risk* of error. A business undertaking is always attended with risks, but who would say no such enterprise is ever successful? Both success and failure are to be measured with reference to the goal visualised by the adventurer. All assertion is intentional in character, and if the intention of a speaker is not to say in an assertion everything about everything in the universe, we cannot brand the assertion as false because it tells us something about something in our environment. The presence of risk does not make an assertion, when it is true, partly false at the same time. The principle, "No risk, no gain", is valid in the field of knowledge no less than in that of business. For what is progress in knowledge but a further and further moving away from the directly given and embracing facts not easily verifiable by an immediate appeal to perception? Science, philosophy, mathematics and logic are themselves the fruits of such risk-taking.

22. The assertion that contains the least chance of error may be called a *basic* assertion. (*Cf.* & *contrast* : *Russell*, "*Inquiry*", *pp. 152 ff*). Such an assertion, as expressed in language, contains "ego-centric" words like *this, that, here, there, now*, etc. "This is blue", "That is white", "Here is a spot", "There's a line", "This is to the right of that", "That is bigger than this", "Now comes darkness"—may be regarded as examples of basic assertions. These are most closely related to the sensory aspect of the perceptual object, "sense-bound" in a true sense. They cannot be proved by other assertions, nor do any two of them contradict one another. There is sufficient reason therefore for regarding them as basic or fundamental. If their truth is questioned by anyone, all that we can do is to ask him to look at the objects from our position and angle of vision. If we ourselves feel any doubt after we have made the assertion, the only remedy is to repeat the observation. Even if some one looking at the thing from our position and in our perspective declares that "This is not blue" (when we had said "This is blue"), we conclude that either he does not know the meaning of the word "blue", or else is colour-blind. Experience shows that either of us must be colour-blind or ignorant of the meaning of the word in question.

Basic assertions are admissible in regard to what are known as the "attributes" of sensations of all kinds. Only we should remember that such "attributes" are primarily predicable of the objects themselves, and secondarily of the mental acts. The "attributes" of sensations are generally enumerated as Quality, Intensity, Protensity, Extensity and Local Signs. With respect to perceptual referents we have already embodied them in our list of categories, and no separate discussion is called for at the present moment. But we should remember that basic assertions are eminently personal in character, No one else can make such assertions without occupying my position and adopting my point of view. None the less, concerning matters of fact they are the highest court of appeal. They cannot be proved, nor do they require any proof. They are, therefore, in a sense, self-evident, but at the farthest remove from what go by the name of axioms or self-evident principles. For while the latter are the most *general* principles, in any particular sphere, relating to all things, the former are the most *particular* statements about singular facts or occurrences. And whereas the axioms are often viewed as absolutely certain truths with no chance of error, the basic assertions, though normally correct, are never immune from the risk of error. Yet they are the strongest hold we have on external reality in cognition, which can be expressed in language and communicated to our fellows.

CHAPTER VII

MEMORY AND INTROSPECTION

1. Memory is the knowledge of an object previously perceived but no longer present to the senses of the percipient. Many thinkers have refused to regard memory as an independent source of knowledge like perception. But such an attitude would make short work of perception itself. For a single act of perception lasts only for a moment, and no system of knowledge can be built up without reliance on memory. Neither communication, nor verification, is possible without reference to an object no longer present to our senses. All perception involves recognition which is incipient memory blended with the sensational aspect of the perceptual assertion. A mnemic assertion, in its proper form, i.e. as distinct from recognition, is the belief in the reality of an object which figured as the referent of an earlier perception. Such an assertion may sometimes be inferential, but not so in every case. Some of the mnemic assertions are non-inferential or primary and it is with these that we are concerned in the present context.

Memory or remembering is not here used in the sense of the cognition of an object which is "just gone". Such memory, called primary memory, does not differ essentially from perception. For perception is not usually the awareness of a momentary occurrence. The present of our perception is a "specious present" including both the immediate past and future. As James said, it is "not a knife-edge, but a saddle-back"; it is penetrated by the past and in its turn, "gnaws", in Bergson's phrase, "into the future". We perceive movement, and such perception is different from separately perceiving two successive positions of an object. Bergson is wrong in supposing that perception gives us only snapshots of the distinct positions of a moving thing. (*Cf. "Creative Evolution", pp. 316 ff*). In memory proper the object remembered is no longer present to the senses; there is no stimulation of the sense organs by the object which is the assertum of the mnemic assertion. Memory defined in this way differs from perception, though in a sense it is rooted in perception. For the object of the mnemic cognition was once the object of a perceptual assertion, and the act of remembrance is often initiated by a perception. None the less, they differ from one another in an essential respect. The object of perception is present here and now and contains a sensuous core, but the object of memory at the time of remembrance has no sensory core and is not present here and now.

2. Mnemic cognition proper is of two kinds, reminiscence and ordinary memory. Recognition is present in both; but while the former includes a reference to a definite point in the life-history of the person who remembers, there is no such reference in ordinary memory. I have the reminiscence of having visited Delhi in November, 1939, but I simply remember the multiplication table, or *Tarantella* by Hilaire Belloc. While the one is dated, the other is dateless. Reminiscence or dated memory involves introspection in addition to ordinary memory, with which we are concerned just now.

All memory contains an objective or propositional reference to the object of a previous perception. This propositional reference is believed or asserted, and in this way memory differs from imagination or fancy. The mnemic assertion though containing belief like the perceptual assertion differs from it in this that while in the latter there is a feeling of immediate presence of the object, in the former there is a feeling of pastness about the object. As a rule, perception has a vividness and liveliness which are absent from memory. But this rule has many exceptions, for certain objects of memory "flash upon the inward eye" with a liveliness that is not present in all perception. Anyway, in spite of the faded character of the remembered object in ordinary cases, there is no doubt or hesitancy within the mnemic assertion. The propositional reference at once points to an object in the past and the reference is accepted as objectively real. A sort of feeling of "presence-in-absence" is characteristic of remembrance.

3. From the epistemological point of view memory is as primary as perception. But while a perceptual assertion is in contact with a sensory core of the object, there is obviously no such contact in mnemic assertion. Hence the chance of error in such assertions increases manifold. Still they are primary in the sense that they are non-inferential, and cannot be proved or disproved *finally* by means of other types of assertion. Causally, memory is derivative: it is conditioned by previous perception, as well as by retentiveness, association and other mental facts. But epistemologically it is independent: an assertion of the mnemic type is unverifiable by perception simply for the reason that we cannot live back in the past. We can but cynically consider it an incurable defect of human nature, but

realise at the same time that memory and perception sail in the same boat, the difference between them in respect of fallibility being one of degree only and not of kind.

"Memory", as Hobhouse says, "is in logic one of our postulates, and not one that can be resolved into any simpler postulate. It is a direct or immediate belief about the past, not a belief based on some other truth; and it claims to be trusted for its own sake, and not on the ground of any premise or any other process". (*"The Theory of Knowledge", p. 76*). Moreover, "remembrance", as Stout urges, "is as indispensable to the knowledge of the present as such as it is to the knowledge of the past as such". (*"Studies", p. 166*). For the appeal to memory is an appeal to what we are now experiencing in consequence of the attempt to recollect. And in the act of remembering, what we experience now is essentially incomplete and cannot be apprehended at all except as continued from its own past. It must not be forgotten that perception, as mentioned earlier, is the permanent occupation of the mind in its cognitive aspect and that all other cognitive acts, including remembrance, are rooted in perception and are initiated by it. And yet memory has a distinctive function of its own, which is to know a past object over again without perceiving it now. How this is possible in general calls for explanation in epistemological terms.

4. The object of memory is identical with the object of the corresponding perception known directly in the way explained above. It is existentially independent and is neither a present object nor a present content or idea in the mind. For recognition, which is an essential factor of mnemic knowledge,—sometimes nascent but normally conscious,—is not only a *re*-cognition but also a *recognition* of the same object. Reproduction without recognition is mere imagination, but reproduction combined with recognition becomes memory proper.

It seems, however, somewhat of a paradox that a past object can be the object of a present cognition. This paradoxical character of the mnemic object has been sought to be explained in various ways. All representative theories of knowledge have a smooth sailing here. Their triadic formula of "subject-content-object" comes very handy in the present predicament. Objects, they say, do not appear directly to the knowing mind but only vicariously in its contents. Images or impressions mediate between the mind and its objects, and in mnemic experience what is immediately present to the mind is not a physical object but an image or ideal content. Indeed some thinkers have embraced a representative theory of *perception* partly on the ground that images as involved in memory will have to be admitted and so there is no need to decry the presence of enigmatical sense-data in the perceptual situation. (*Cf. Ewing, "Idealism", p. 381*). Hence, though images as *copies or duplicates* of physical things tend to be discarded, they appear resuscitated as *contents* of mnemic cognition in the writings of many realists with idealistic leanings. As Ewing puts it: "In memory I perceive directly my own images or sensations, which need not and cannot be identified with the event remembered. My relation to them is quite different from the relation I bear to the past event. For I am immediately aware of them as here now, while in knowing a past event I am not immediately aware of it as present but past. If we doubt the evidence of our immediate experience so far as to say that the images are not really present now but only seem to be so, we might just as well doubt anything". (*Op. cit., p. 273*).

This seems to be a revival of representationism in its original form. For what is meant by saying that "*in memory I perceive directly my own images* or sensations"? If images and sensations are mental acts, then the view amounts to holding that all memory is introspective, which is not really the case. If, however, images and sensations stand for contents, they are diaphanous entities through which we look at objects. But is it, then, correct to say that I *perceive* my own images and sensations, and not objects which are physical existents in their concrete forms? Ewing seems to advocate a theory of *floating images* against which Bradley in his later years argued so well. Bradley came to see that there need not be an image with every idea, though every idea "has an aspect of psychical event, and so is qualified as a particular existence". But in using the idea, he adds, we are not necessarily "aware of it as a mental thing". (*"Logic", Vol. I, p. 38*). Bradley seems inclined in the end to regard ideas as mental existents with a referential character, though the use of the term "contents" in respect of them is reminiscent of his earlier doctrine of floating ideas.

Prof. Reid thinks that the identification of the content with object evades the question of knowledge instead of describing its nature. As he says: "Because I think now of a red rose last summer, and because the red rose then perceived had substantially the same characteristics as the rose now thought of, it does not follow that the identical existing rose last summer *is* my present content". And then in his characteristic manner he declares that "to say so is not merely to leave the problem of knowledge unexplained, it is to caricature the very notion of knowledge". (*"Knowledge and Truth", p. 54*).

Such a criticism directed against New Realism (which indeed is its target) has great force, because that theory regards reproduction as a physical process. (*Cf. "New Realism", pp. 304 f*). But Reid virtually negatives the value of the contents by regarding them as "part of my private experience", for parts of experience cannot be anything but mental acts in their referential character. He makes "a clear distinction between (a) my thinking, (b) my content, and (c) the real existing world". (*Op. cit., p. 55*). Here his view is not appreciably different from that of Ewing (e.g.) and there is no point in his decrying the sense-data theorists with so much gusto and eloquence.

5. Prof. Stout has tried to do justice to both the seemingly inconsistent characters of mnemic cognition. But he has confused the real issue by identifying introspective memory with its ordinary form. In his *"Manual of Psychology"* he distinguished clearly between retentiveness, "personal memory" and "memory in general which is impersonal". (*p. 521*). But in his *"Studies in Philosophy and Psychology"* he identifies the last two, though distinguishing both (called "reminiscence" without any discriminition between the personal and impersonal forms) from retentiveness, which "is an indispensable condition of reminiscence". (*pp. 168 ff*). This unconscious identification, we suspect, is partly responsible for his accepting a theory of mental contents as distinct from mental acts.

"In memory as reminiscence", says Stout, "what we are cognisant of, vaguely or definitely, is the bygone experiences themselves as belonging to our past history". Memory, he continues, though immediate in the sense of an underived or non-inferential form of knowledge, is not immediate experience. We would be doing violence to language, he says, if we said that an individual experiences immediately what he does not actually experience, or conversely, that he actually experiences what he does not immediately experience. Let us suppose, says Stout, that a thirsty man has just quenched his thirst by drinking and that he then remembers having been thirsty. "What he properly and immediately remembers is the actual experience of having been thirsty, not any simulacrum or representation of it with the sting extracted. The object or an essential part of the object of his thought and attention in remembering is his bygone experience as it actually occurred. But he is not actually living through it while he is remembering it as past". (*Op. cit., p. 171*).

What Stout says here is quite true. When I remember a previous mental state in my life-history, the object of my present remembrance is doubtless that mental state as it actually took place in the past. And it is equally clear that in remembering that I do not live through it, because it is gone for ever. It is further true that no representation of it is present before my "mental vision". But, if all these things are true, why should I suppose that what I remember now is a mental content different from the actual experience? Stout has no right to say that the object remembered is the actual experience as it occurred, for he denies the immediacy of the mnemic cognition and declares that "the original content and the retained content do usually differ more or less in their nature" and that, therefore, "the past and the present contents are not directly and individually identical with each other". (*p. 174*).

How are, then, the contents, original and revived, related to one another? "Original content and retained content are not directly identical with each other but are connected within an identity: they are successive stages in the history of the same thing". And "however inadequate or false may be our account of it, there is a 'continuant' which connects the original and the reproduced contents". (*pp. 174 f*). The contents, clearly, are not mental acts, nor are they physical objects. What, then, is the *continuant* that connects the original and the revived contents? Were the contents logical entities, their independence would be understandable, but not surely any continuance between them. If the contents were mental acts in every case of mnemic cognition, then we could not remember things without referring explicitly to our experience of them. The only other alternative, then, is that they may also be physical things, in which case no good purpose is served by using the ambiguous term "contents" as the objects of cognition. Indeed, Stout, as mentioned earlier, has a tendency to accept a representative theory of *cognition*, and not merely of *perception*.

6. "The object of memory", said James "is only an object imagined in the past (usually very completely imagined there) to which the emotion of belief adheres". ("*Psychology*", *Vol. 1*,

p. 652). This description, though faulty in regarding belief as an emotion, is yet on the right track in not confusing between personal and impersonal memory. Alexander who takes it as his cue says that "the object, then, is before my mind, bearing on its face, the mark of pastness, of being earlier than those objects which I call present. In the mind there corresponds to it the act of imagining or conceiving it, and there is in addition the act of remembering it, the consciousness that I have had it before". This consciousness of pastness in a vague form is involved in the act of remembering which is also recognition of the object. The pastness of the object is, for Alexander, "a datum of experience directly apprehended". "The object", he continues, "is compresent with me *as past*. The act of remembering is the process whereby this object becomes attached or appropriated by myself, that is, by my present consciousness of myself, ... in which may be distinguished a subjective and a bodily element unified in the person". (*"Space, Time and Deity", Vol. I, p. 114*).

Alexander repudiates all suggestion that there is a content in memory different from the object, something "referred in thought, or in some other way, to the actual object I once perceived". The remembered object and the perceived object are two physical appearances of the same thing. "The remembered man does not speak now, but he is remembered as speaking, or, to vary the example, the memory-object is the physical man cutting trees yesterday". (*pp. 114 f*). This analysis is intimately connected with Alexander's theory of appearances, but it is clear at once that, in order to show the directness of memory, he does not say that the object remembered is compresent in the sense of being *simultaneous*. "The simple deliverance of experience is that it is apprehended as past. The notion that it must be simulataneous with the present in order to be referred to the past is thus intrusion of a theory into the actual experience". (*Ibid., p. 117*).

The object of memory cannot, however, be regarded as an appearance of the physical object, unless by appearance we mean an interpreted datum as in the case of perception. Alexander's theory of direct realism cannot explain satisfactorily perceptual errors, and the same is true of its explanation of errors of memory. Any error due to the given element is explicable by it, but no error due to interpretation, which plays a beggarly role in the perceptual scene as described by him.

7. We must try to do justice to both the direct and indirect functions of the mind in its cognitive acts. Hence the distinction between the datum and the interpreted should be carried over into the field of memory as well. This may seem absurd on the face of it. For the given element in perception is the sensory core which stimulates our sense and the interpretation is the imaginative factor blended with it. How are we to make such a distinction in the memory object which has no sensory core but is imagined as real? The fresh reference to the object, it should be noted, though not present before the senses, is enriched by recognition and localisation in the biography of the subject and thus impersonal memory has a tendency to pass easily into the personal form. But even when it remains impersonal, there is a distinction between the datum and the interpreted; for the object in its complexity cannot be known (in retrospect of course) by the fleeting glimpse of a single moment.

The mind surveys the object and this survey is interpretative in character. Only when the reference is vague, there is a comparatively prominent datum; but as the reference becomes more and more articulate, interpretation assumes the dominant role. And the risk of error is always there in memory, as in perception, because the interpretative function is not so direct as the reference to the datum. The term "compresence" is misleading in its implications, and the situation is described better by saying that in remembrance, the mind refers to an object previously perceived (but no longer apprehended in perception) and believes it was real once upon a time. *In brief, the mind in mnemic assertion accepts a propositional reference to a past object*. And such a description is happily free from ambiguous suggestions.

The representative theory, by its acceptance of images somehow stored up in the mind, cannot really explain the referential function of memory. Nor can it distinguish memory from imagination without introducing the attitude of assertion or belief. But if we accept both the referential function and the assertive attitude adopted by the mind, there is no need for positing a *tertium quid* like the image or content to serve as the go-between in the mnemic transaction. Reference is, moreover, timeless in its essence, and the description of the mnemic judgment as the assertion of a propositional reference to a past object sounds much better than speaking of the past object as compresent with the present mental state.

Reference is a unique characteristic of mental states, and the referent need not be a present object, an object stimulating the senses here and now. The mind can refer to an object even when it is absent from its vicinity, and once we realise fully the nature of reference there is no need to introduce elusive entities like images or ideal contents as the vehicles of "going out" to the object. Moreover, transcendence of time is not peculiar to memory; it is a feature of perceptual experience as well. Physiology shows that there is an interval, however short, between sensory stimulation and perception, and physics declares that the star we see in the sky may have been destroyed a million years back. And yet perception, we have contended, is knowledge of physical objects, and not of sensations or sense-data. The same is true of memory, too, when it is not introspective or personal.

In spite of great distances, spatial in the case of perception, and temporal in the case of memory, cognition is *felt* as direct or immediate, and *is* direct in a true sense. But we have seen that it is also *indirect* in another sense. Memory thus resembles perception, in being at once direct and indirect,—the main difference being that the datum of memory is not sensuous, but is an imaginal vestige of the sensory element which formed the nucleus of the original perception. For a theory of direct realism memory is nothing short of a miracle, while for a theory of representative images, it presents apparently no problem at all. But though not miraculous, memory does present a genuine problem seeking solution. It is only a theory, which has room in it for both the directness and the indirectness of the cognitive function, that can satisfactorily explain the paradoxical character of remembrance. We analyse this two-fold character of mnemic cognition as the acceptance of a propositional reference to a past object with its imaginal core charged with interpretative elements.

8. Introspective cognition may seem to be a stumbling block for the theory of judgment advocated in these pages. This, at any rate, it may be urged, is a kind of cognition which is direct in the truest sense of the term. For how can there be any the least indirectness in introspection wherein the mind turns its attention to its own states? Introspection is essentially the cognition by an experient of his own states and processes. As the relation between the subject and the object in this case is peculiarly intimate, it may be supposed that no interpretation, or even propositional reference, is involved in introspective awareness,

There would seem to be point in such a contention. For it has been maintained by many great thinkers that every act of awareness is at the same time an act of self-awareness. Epistemological monism or intuitionism has its strongest support in introspection. We seem to be intuitively aware of our own acts of awareness, and this is often regarded as a feature of all cognitions. Thus when I perceive the ink-pot lying before me on the table, I am supposed to be aware at the same time that I am perceiving it. For is not all introspection retrospection, and if I am not aware of my awareness when I am aware of the ink-pot, how can I remember afterwards that it is I who perceived it earlier? The awareness of the object and the awareness of this awareness are not two distinct acts succeeding one another in the twinkling of an eye; they are distinct but inseparable aspects of the same act of awareness.

Descartes failed to distinguish properly between these two aspects of awareness. He argued that the cognition of objects is, *ipso facto*, a cognition of the mind, or self-cognition. He did not notice the dual role the mind is called upon to play in self-awareness. But for this very reason Comte considered introspection an impossible feat, and many other thinkers agree with him. Leibniz admitted the distinction between awareness and self-awareness between what he calls "perception" and "reflection". All cases of perception, he says, are not cases of reflection, but when a perception is also reflective, the reflection or awareness is an immediate intuition involved in the perception. Hegel acknowledges the presence of a duality in self-cognition, but he thinks, none the less, that the mind in the act of perceiving an object, or knowing another mind, is simultaneously aware of its awareness. At bottom his theory rests on an analogy between the object as a mirror and the self as the reflected, and cannot withstand critical scrutiny. Self-cognition is viewed as a sort of recognition involved in the knowledge of other minds in special. This kind of introspection cannot serve as a basis for psychology, for the knowledge of other minds is dependent on and derived analogically from the knowledge of one's own mind. It is better to say that self-awareness is involved in every perceptual awareness, as Kant implied in his doctrine of "inner sense".

9. Alexander holds that in every act of awareness the mind "enjoys" itself and "contemplates" its object and "that these two existences, the act of mind and the object as they are in the experience, are distinct existences united by the relation of compresence".

Introspection is not the contemplation of a mental state, for a mind cannot turn upon itself and make itself an object of contemplation. "Introspection is in fact merely experiencing our mental state, just as in the observation of external things the object is contemplated". Hence every mental state is an act of introspection, because in it the mind enjoys itself, and enjoyment is introspection. "My own mind", Alexander tells us further, "is never an object to myself in the sense in which the tree or the table is. Only an *-ing* or an enjoyment may exist in my mind either in a blurred or subtly dissected form". When that condition of subtle dissection arises out of set scientific interest, we are said to practise introspection, and the enjoyment is the existence which is introspected. "Such introspection displays the complexities of our mind as careful scientific observation of external things displays their complexities and the relations of their parts or features". (*op. cit., Vol. I, pp. 12-30*).

Thus Alexander practically denies the possibility of introspection, for he admits it only in the sense of an intuitive awareness. But unless a mental state becomes an object of knowledge, it is not clear how we can communicate with one another about the nature of our minds. The term "enjoyment" used by Alexander stands for knowledge only in a Pickwickian sense: for all knowledge implies a duality between the subject and the object, which is admittedly absent in enjoyment. The only plausibility of the theory derives from the fact that "enjoyment" is double-edged in meaning. It implies the subjective side and points also towards the object, for all enjoyment is *of* something *by* a subject. But the suggestion of this transitive reference is misleading, because Alexander does not intend that suggestion. The transitive reference involved in every cognitive act is contained in contemplation, whereas enjoyment (shorn, of course, of all implication of pleasantness) has been used only to stand for the intuitive awareness of contemplation, or rather, of the mind as contemplating an object. For Alexander, introspection, which is none other than enjoyment, is therefore at bottom a "feeling of warmth and intimacy" such as James spoke of. But introspection is a *cognitive* process and may be directed upon all kinds of mental states, affective and conative as well as cognitive.

10. The refusal to regard introspection as concerned with an object, distinct from the subject, is due partly to the supposition that no such "division" of the mind is possible, and partly to the reason that introspection being essentially retrospective presupposes an original

awareness which is its logical *prius*. The Vedānta criticism of the Nyāya—which accepts introspection as retrospection (anuvyavasāya)—contains, among others, the objection that it is inconceivable how two mental processes can be simultaneous, how "two states of knowledge exist together at the same time". (*cf. Dr. D. M. Datta, "The Six Ways of Knowing", p. 132*). But the objection is irrelevant, since retrospection does not entail the *coexistence* of two mental states, one of which is professedly no more. Introspection is retrospection, the object which is a single state of consciousness recalled in imagination. Indeed the refusal to regard mental states as possible objects of knowledge would make all talk about them nonsensical.

The Prābhākara Mīmāṇsā propounds the theory of "triune awareness" (*triputīsaṃvit*) according to which "every knowledge menifests itself at the same time that it manifests an object and the knowing subject". (*Dr. S. C. Chatterjee, "The Nyāya Theory of Knowledge", p. 203*). All consciousness is thus self-consciousness and that in a double sense, viz., the consciousness of the self and the consciousness of consciousness. Sophistication could hardly go further. Introspectionists, however, give a different verdict on this claim of every act of awareness to be conscious of itself. "Psychical states as such", says Stout, "become objects only when we attend to them in an introspective way. Otherwise they are not themselves objects, but only constituents of the process by which objects are cognised". (*Quoted in the above work*). Some have been driven by such consideration to the view that introspection is always inferential; but such a contention becomes plausible only when knownness is regarded as a quality stamped, as it were, on the face of the previously known object. (*Cf. the Bhāṭṭa Mīmāṇsā view*).

We have held fast to the position that knowledge happens to an object and cannot be said to change or modify its nature in any intelligible sense. Hence we must regard introspection as primarily non-inferential, though not the same as extrospection or perception in its accepted connotation. Such non-inferential cognition is not numerically identical with any and every cognitive act. Introspection as involving memory does need a foot-hold on perception; but that does not necessitate viewing every cognition as at once pointing to an external object and to itself. Introspection is not ordinary memory, i.e. identical with memory in general. It does contain memory as one of its ingredients; and yet in its primary form it is unique because its given element is not derived from a previously perceived *object* but from a previously occurrent *act* of perception in its concrete setting.

All knowledge in its non-inferential or primary form contains at once a "given" and a "taken" element equally important. These, in the case of perception, are a sensory core and an imaginal coating, and in memory an imaginal nucleus saturated with other imaginal factors less lively and vivid. Introspection has for its object a remembered mental state the "given" element of which is derived from the subjective or existential side of the original state and the "taken" element is an imaginative factor borrowed from previous experience.

This intuitive element may be described, as a "feeling of immediacy", but it is neither purely affective nor merely conative, or cognitive. It is what we have called the *existential* aspect of a mental state as distinct from its *referential* aspect, and the existential aspect is not identifiable with the intuitive element of the object or perception which is itself referential. Only the given element of the object of introspection is the existential aspect of a previous mental state, though every mental state is at once existential and referential in in character. The referent of the introspective act is itself an act of reference, though introspection is not primarily concerned with the nature of the referent of the original state upon which it is directed. On our view it is not justifiable to say that every mental state, or even every cognition, knows the referent, the reference, and the referring mind—all in a sweeping single act of awareness. The root-cause of such a confusion, we surmise, is the *right conviction* that all knowledge requires a basis in immediate apprehension, and the *wrong inference* drawn from it that this intuitive awareness is by itself a complete act of knowledge or cognition.

11. Whether the mind or self can be introspected is often regarded as a different question, and that relates to the second meaning of self-consciousness. On our view, the mind is known in and through acts of introspection and there is no other avenue to the knowledge of the self. While perception gives us knowledge of physical things, introspection informs us of the nature of the mind. Just as the external object is partly an ideal construction based on actually perceived data, the mind is partly an ideal construction based on introspected processes. We have seen how we can avoid both the Scylla of subjectivism and the Charybdis of objectivism by adopting this positivistic position.

Our knowledge of the *self* is no more intimate or direct than our knowledge of the *external world*. Those who claim an intimate acquaintance with the workings of the self forget that we do *not* know ourselves, as life so often reminds us painfully. The findings of psycho-analysis and the primitive character of psychology are positive proofs of the meagreness of our knowledge of the self in its total integrity. Hence it is flying in the face of facts to maintain that at any moment we know the whole self with its diverse characters. The self is known only in and through its states when these become objects of introspection or "self-consciousness".

Thus we can accept Hume's description of introspection as partly correct, though not as a complete account of the situation. "For my part", said Hume, "when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception, and never can observe anything but the perception". (*"Treatise", p. 534, Vol. I, of Green and Grose edition*). It is true that I can never catch myself without some mental state or other, but it is wrong to conclude that this state by itself is all that is known in introspection. Mental states, as Hume says, do indeed "pass, re-pass, glide away, and mingle in an infinite variety of postures and situations", but they are states of the mind that continues to be, not only in spite of, but because of, the incessant alteration of these processes. Hume rejected the view of minds as substances, but only to replace it by that of mental states as self-existents.

For us the mind, just like a physical thing, is a system of occurrences revealing itself in and through these occurrences. The transcendentalists may argue that self as pure ego is not a whole at all, but the bare principle of subject as the logical *prius* of all perception as well as of introspection. But such a self is a thing-in-itself and has no room in our positivistic theory. Besides, the pure ego, even if real, is never an *object* of introspection, or any other kind of knowledge, and we are dealing here with the objects of introspective cognition.

12. The question that concerns us at the moment is how to explain introspection as a recognised form of cognition. This is why we need not discuss the Behaviourist's view of introspection, for he, like some non-behaviourists, blandly denies its existence or possibility. A bitter dispute about imageless thinking makes him suspicious of

all introspection, and for this, as also for other reasons, he throws it overboard, and quite naturally the self, too, knowable finally through introspection. But granted that introspection is an actual mode of cognition, how are we to explain it? All introspection, we have seen, is retrospection which is impossible without memory. The mind at the time of knowing an object cannot bifurcate itself in such a manner as to cognise with one part the object and with the other that cognitive act. Nor can it have a feeling and know the feeling at the same moment: and similar remarks apply to a conation and the awareness of that conation. Theories of epistemological monism fail to distinguish between the existential and the referential aspects of mental states. A cognition is a mental act and as such is an existent. It never occurs in isolation, but is inseparably "mixed up" with affective and conative elements. Hence the fact that a cognitive state has an aroma of affection and conation should not induce us to suppose that this feeling of warmth and intimacy is *another cognition* existing side by side or blended with the cognition of the external object.

It is quite true that no two mental states can exist alongside of one another at precisely the same moment. It is equally true that the mind cannot divide itself into two parts, both simultaneous, one of which contemplates or knows the other. Admitted that every cognitive act is suffused with affective and conative elements, all of which go to constitute the concrete mental state, the state of the mind at any point in its life-history. Yet it remains a palpable truth that the mind can know itself by a backward glance at its past, though the concomitant affective tones do not amount to any knowledge, "enjoying" or otherwise.

Introspection is not simultaneous with the original state which is its object. The transitive reference which is a unique feature of cognitive acts can be directed to any mental state when it has already taken place. That introspection sometimes seems synchronous with the introspected state is clearly due to the *durable* character of a mood, or a disposition. In such cases, introspection plays at hide-and-seek, as it were, lest it should disturb the more or less absorbing state: it proceeds by taking a series of transient "side-glimpses" which are really glimpses into the just-gone constituents of the complex process.

13. The objection, already noted, that memory pre-supposes an original experience of which it is a reproduction, is formidable for all

representative theories of knowledge in regard to introspection. They explain memory so easily by means of the ubiquitous images, but come to grief in the explanation of introspection, which cannot be said to have an original impression. The representationist cannot admit any intuitive apprehension of awareness. Nor can the intuitionist, who equates intuition with knowledge, explain the falsity of some introspective assertions. Here, as elsewhere, while the objectivist fails to account for the falsity, the subjectivist fails to explain the truth, of our judgments.

It is the difficulty of ferreting out the original of retrospective cognition that has led many to regard all consciousness as self-consciousness. But this is due partly to an over-emphasis on cognition. Is any one ready to allow that such consciousness occurs in affective and conative experiences? Is the angry man *always* aware that he is angry, the frightened boy *conscious* that he has a fright, or the scholar deeply engrossed in a book *aware* that he is so occupied? That such a supposition leads to absurd consequences is enough to show that something is wrong with it. Indeed a thoroughgoing intuitionism in respect of self-awareness can only be upheld, strange as it seems, by an intellectualist psychology that reduces affection and conation to cognitive experiences. The plausibility of introspective intuitionism derives from a failure to distinguish awareness from self-awareness which often follows it. When I have perceived an object, I may become aware that I have perceived it, and because the self-conscious cognition "treads upon the other's heels, so fast they follow", that we tend to ignore their distinction and regard them as a double-edged, identical act of cognition. But to slur over this genuine distinction is to invite a host of gratuitous perplexities.

The original of the introspective memory, as mentioned earlier, is the existential aspect of the mental state which we "visualise" in retrospect. Those who insist on the original as a completely given object in introspection fail to realise the primary character of this form of cognition. We have seen already that memory is a distinctive form of knowledge in the sense that, though based on perception, it is not a repetition of the original perception: it has an essential reference to the past which is not present in any other kind of cognition. The uniqueness of *introspection* derives from its reference to a *mental process*, although viewed in retrospect and having its own reference to an external object. Those who would justify introspection by making cuts across every mental state, one part of which is the introspecting and the other the introspected act, not only spatialise the mind, but commit "the psychologist's fallacy" by reading into the mental state a reference it does not itself contain. We, on the contrary, maintain that all introspection is retrospection, and that the introspecting retrospection is different from the ordinary retrospection which, as impersonal memory, is directed upon external things and events.

14. Introspection is to be distinguished from intuition, involving, as it does, a duality of the fact and the mental act which refers to it. The act of introspection is different from the fact introspected, though the fact in the present case is another act. It is neither an ineffable psychosis, nor is it "shot out of a pistol". Introspection, like perception, is connected with other mental states and is based on a previous state, just as perception is conditioned by a sensory stimulation. Further, just as perception is not mere "-ing" or process with nothing to refer to, introspection is no turning back of a cognition upon itself with its referent lopped off. Short of a trans-subjective reference, the introspected act would cease to be a mental process on which alone all introspection is directed. Introspection refers to a previous mental state (whether predominantly cognitive, affective, or conative) having its own referent other than the referent of the introspective cognition.

Descartes set modern philosophy on a wrong track by maintaining that thinking could go on by itself even when all reference to trans-subjective facts was eliminated. He was equally wrong in supposing that self-consciousness is on a vantage ground as compared with ordinary cognition. On the contrary, introspection is peculiarly fallible, because the human mind, for biological reasons, is primarily outward-looking as concerned with the physical environment. The referent of introspection is a subjective process, fleeting and private. The privacy and evanescence of mental states make introspection specially liable to error. Hence it is that very few of us indeed can be said to know ourselves, and that psychology, dependent as it largely is on introspection, cannot keep pace with the natural sciences. But in regard to simple facts introspection is often reliable, and when experts compare notes with one another, introspection does yield a considerable amount of knowledge even of many of the complex mental states.

CHAPTER VIII

AFFIRMATION AND NEGATION

1. We have examined the different types of assertion that are directly concerned with facts or existents, and have found that the admission of the propositional reference takes the wind out of the sail of many a perplexing controversy. The proposition is an element present in every primary judgment. A judgment is an assertion or belief, the proposition is the assertum and the fact is the object or referent of the assertion. Congruence between the assertum or reference and the referent justifies the assertion or makes it true. We are to see now if the asserting attitude admits of any difference in respect of what is known as "quality".

2. Traditionally, a distinction has been made between affirmative and negative judgments in regard to quality. But the real issue is often lost in a verbal dispute concerning the nature of the *copula* which is supposed to connect the subject with the predicate in every judgment. "The subject is that term about which affirmation or denial is made: the predicate is that term which is affirmed or denied of the subject". The sign of predication, of affirmation or negation, is known as the copula, which is always a form of the verb "to be" taken most often in the present tense. "It is important", says Mill, "that there should be no indistinctness in our conception of the nature and office of the copula; for confused notions respecting it are among the causes which have spread mysticism over the field of logic, and perverted its speculations into logomachies". (*"A System of Logic"*, *Book I, Chapter IV*).

3. Etymologically, the word "being" derives from a root meaning to stand or to stay: it gradually came to acquire the meaning of existence. But various other meanings have in course of time become associated with it, so that at present it is "terribly ambiguous". Russell, in his *"Principles of Mathematics"* (*p. 64*) detects no less than five meanings, viz., (i) existence, (ii) identity, (iii) something "very like identity", (iv) predication, and (v) implication; and confesses that "doubtless there are further meanings which have not occurred to me". Elsewhere he declares that it is a disgrace to the human race that it has chosen to employ the same word "is" for the

entirely different ideas of existence and predication. (*"Introduction to Mathematical Philosophy", p. 172*).

Mill says that "many volumes might be filled with the frivolous speculations concerning the nature of Being,........which have arisen from overlooking this double maning of the word *to be;* from supposing that when it signifies to exist, and when it signifies to be some specified thing, as to *be* a man, to *be* Socrates, to *be* seen or spoken of, to *be* a phantom, even to *be* a nonentity, it must still at bottom answer to the same idea; and that a meaning must be found for it which shall suit all these cases". (*loc. cit.*). The fog which rose from this narrow spot diffused itself at an early period over the whole field of metaphysics, and it has not vanished even in our own day.

4. Joseph has tried to make out a case for the copula. He admits that the copula "may be omitted in speech or writing, or be replaced by an inflexion; but the act of thought which it indicates cannot be omitted if there is to be a judgment. This act, however, is not a part of the judgment in the same way that subject and predicate are. It is the act or form of judging, and they determine the matter. Hence it is, at least generically, the same, while subject and predicate change; and for this reason the scheme of a proposition 'A is B' represents subject and predicate by symbols, but retains the copula itself". (*"An Introduction to Logic", p. 170*). In other words, the copula stands for the act of judgment; it is the sign of assertion, and should be recognised as a distinct element of the judgment expressed in language.

Joseph has, however, discovered a more important reason for the retention of the copula. The inherent ambiguity of the copula in suggesting both predication and existence hides an important truth: it is the fact that "every judgment predicates existence", though not necessarily the existence of the subject of the sentence. This is in line with Bradley for whom all judgments are existential in character. "Wherever we predicate", says Bradley, "we predicate about something which exists beyond the judgment, and which (of whatever kind it may be) is real, either inside our heads or outside them. And in this way we must say that 'is' never can stand for anything but 'exists' ". (*"The Principles of Logic", Vol. I, p. 43*). Bradley, however, recognises that "judgments can exist without any copula", and "the necessity for the copula", he says, "is a sheer superstition". (*op. cit., p. 50*).

5. Johnson retains the copula and holds that it has a two-fold function in judgment. The subject and the predicate are joined by what he calls the "characterising tie" which is present in every assertible proposition. An asserted proposition or judgment needs in addition an "assertive tie" which is a "finite or declaratory form of the principal verb". The "characterising tie" tends to be blended with the "assertive tie" and "the copula 'is' of traditional logic is thus seen to be a blend of the characterising with the assertive tie". (*"Logic", Part I, p. 13*).

What Johnson says is partly true. A form of the verb 'to be' is. used as a "tie" binding together the different words making up a proposition; and a finite form of the same verb is used as the mark of assertion in *many* cases. But our question is precisely, whether the copula in this double function is an indispensable element of every assertion; and the answer must be an emphatic denial. The copula does not appear in all assertions. Traditional logic in its zeal for uniformity has permitted a distortion of the natural turns of expression and a consequent perversion of sense. It has ignored all objections to the lack of linguistic elegance and the abolition of recognised differences of meaning. (*Cf. Schiller, "Formal Logic", p. 104*).

Let us take a few samples only: "He has come just now", "The boy laughs", "You touched me on the shoulder", "I was glad to see you".—The copula does not appear in these cases. It is of course quite easy to change the first example to "He is one who has come just now", but the two are not equivalent at all; they have different meanings. The first denotes a dynamic relation, while the second indicates a relation of class-membership. The first refers to a unique individual, but the second suggests others of a similar kind. "The boy laughs" may be reduced to "The boy is one who laughs", but again there is a change of meaning. While the one may denote a single action, the other denotes a habit. If the manufactured form is "The boy is one who laughs (or has laughed) just now", we have a class membership proposition quite different from the original. "The boy is laughing" may seem to be the obvious and correct version, but here we have no copula at all.—It is useless to multiply instances. The facile promptness with which traditional logic "reduces" propositions gives one the impression that the copula was invented to save logicians from the labour of thinking so that they might have ample scope of finding delight in sheer verbal manupulation. This alone may be accounted a chief reason for the revolt of pragmatists against the barren formalism of traditional logic.

6. The "terrible ambiguity" of the copula of which Russell speaks was partly recognised by James Mill and his son; but it was Peano and Frege who called attention to the untold ambiguities which necessitated its total abolition in the symbolic schemes formulated by them. If, however, we are not ready to go the whole length with them, we must see whether there is any justification for the retention of the copula in a restricted sphere.

It seems clear that where we deal with concrete instances of assertions, we need not look for the copula unless the idiom of the language requires it. The copula is primarily *a* sign of the attitude of assertion, but not *the* only sign. The same function is equally well served by any other verb in the indicative mood. Hence there is no need for the copula so long as we deal with actual assertions. It is only when we try to formulate a symbolic scheme that the need is felt for a common sign of predication. The copula may be invoked to serve this purpose. The "marvellous secret of speech" is its fluid indeterminateness, and we may use the same colourless form of speech for a number of very different forms of thought. The copula may be used as a substitute for the verbal forms in assertions, but we must not run away with the idea that all assertions are of a single type. (*Cf. "The Principles of Logic" by Windelband in "The Encyclopaedia of the Philosophical Sciences", Vol. I, pp. 27 f*).

The charm of language is very great indeed and even a thinker of the eminence of Aristotle fell a victim to it. The symbolic form "S is P" is quite acceptable to him, because for him all judgments are of the subject-predicate form. The subject of the judgment is a substance, the predicate an attribute, and the relation of predication is consequently that of inherence (or non-inherence in the case of negative judgments). It is evident that the form "S is P" is quite suited to expressing a relation of inherence, but it is equally clear that this form is unsuitable for other relations. And all assertions do not express a relation of inherence between the subject and the predicate. "The great majority of the propositions that we think, speak and write present a much articulated manifold of contents; these contents are related to one another in different ways and can only be transformed into the affirmation of a group of predicates of a group of subjects by an unnatural constraint". (*op. cit., p. 27*).

Hence we must be very careful in handling the copula. It should be treated as a *mere sign of assertion* with no implication of a particular relationship between the elements of the proposition that is asserted.

7. Cassirer has pointed out that there has been a uniform development in the direction of multiple meanings of the "is", particularly in the differentiation of the existential and the relational. He has also shown that there has been a like development of multiple meanings of the "is" in its existential sense, and that these multiple meanings are a necessary aspect of the development of mind and language together. "Language in general develops from the perceptual imitative stage, through the metaphorical and analogical, to the symbolic. In this general development the copula shares". (*Urban*, "*Language and Reality*", *p. 30*).

Prof. Urban pleads for the traditional interpretation of the copula in an existential sense, or rather, in multiple existential senses, with the conception of "universe of discourse" as a necessary supplement. He makes a sharp distinction between logic and theory of knowledge and considers logic to be formal in an invidious sense. He can, therefore, accept the existential interpretation of the copula, "existence" being treated as synonymous with "being" in a vague sense as in Meinong.

We have contended in these pages that logic is hardly different from theory of knowledge, and so we cannot advocate a scheme of formalism that wholly ignores the matter of thought. It has been shown further that all *primary* judgments or assertions have an existential reference, i.e. the objects to which they refer are all existent facts. But the same is not true of those judgments which are found in an abstract science like mathematics. While it is true that in the end even such judgments have a reference to the world of existents, it would be wrong to consider that the direct reference of a mathematical judgment is to an existent object. In that case we have no right to maintain that *every* judgment is existential in character. Abstract judgments, however, do sometimes contain the copula which cannot, in these cases, suggest the existence of the logical subject. Hence it is not permissible to say that *every* judgment, even in a symbolic scheme, contains an existential reference indicated by the copula.

The retention of the copula is therefore a matter of linguistic convenience; but unless we are ready to introduce needless complexities in a logical schedule of judgments, we must regard the copula as simply a sign of assertion or belief. Every judgment is the acceptance of a propositional reference, and the copula does nothing more than symbolise the attitude of acceptance.—But can the copula be negative as well as affirmative? Some judgments are regarded as affirmative and others as negative, though all of them are equally the acceptance of a propositional reference. Should not a negative copula indicate the attitude of rejection which characterises a negative judgment? This question brings us back to the main topic of our discussion.

8. Some thinkers, such as Hobbes, recognise only one form of the copula, viz., the positive form "is". They say that since the copula stands for the attitude of assertion, it cannot admit of any qualitative variation. In a negative proposition, they contend, it is not the copula but the predicate that is negative. Mill in criticising this view maintains that it is a case of mystification by apparent simplification. "The fundamental distinction is between a fact and the non-existence of that fact". The affirmative judgment affirms the existence of a fact and the negative judgment denies its existence. This is a genuine logical difference which cannot be got rid of by merely shifting the particle "not" from the copula to the predicate. "To put things together, and to put them or keep them asunder, will remain different operations, whatever tricks we may play with language". (*Mill, loc. cit.*). Mill thus recognises the distinction between the positive and the negative copula on the ground that every judgment has an existential reference.

But it is precisely because of advocating an existential view of propositions that some logicians refuse to recognise the negative proposition as having any logical import at all. As Prof. Dewey puts it: "They (i.e. affirmative propositions) are taken to be declarative of what is existentially there. The same thing cannot be said of negative propositions. Hence it is denied by some writers that negative propositions have any logical import at all. They are at most, according to them, rejections of suggestions that have arisen in our own minds and hence they have only a personal or psychological standing". (*"Logic", p. 187*). In the words of Sigwart, "There is no such thing as a negative copula but only a negated copula". (*"Logic", Vol. I, p. 122*).

We have seen that the copula to be admissible at all must be divested of all existential reference. Hence the absence of that reference in a particular assertion cannot by itself make the assertion negative. The distinction between affirmation and negation must be sought elsewhere,—though the distinction, once detected, will be indicated by means of the copula. But it is meaningless to speak of a negated copula. The copula is not one among other constituents of an assertion. It stands for the attitude of assertion and thus belongs to the epistemic, not to the structural, aspect of an actual assertion. The copula does not affect the predicate alone, nor should it be regarded as harnessing the predicate to a foreign factor known as the subject of the judgment. It expresses the act of predication, which is at the same time an act of "subjection". Judgment is simply the complex process at once analytical and synthetical that represents a situation to the knowing subject. In the language of Dewey, "it is a name for the functional correspondence between subject and predicate in their relation to one another". (*op. cit., p. 133*). Once we look upon the copula as a distinct element in the structural aspect of the assertion, we find ourselves confronted with the Bradleyan caveat that the judgment has an inherently self-contradictory character. The copula justifies its inclusion in the logical scheme only as a symbol for the act of assertion,—the attitude of acceptance of a propositional reference.

9. What, then, is the distinction between an affirmative and a negative assertion? It is the distinction between belief and disbelief. Even a tyro in psychology knows that disbelief is not the absence of belief, but is a negative belief. This, however, requires further elucidation. For it may be urged that belief is a mental attitude and as such it is an existent or the action of an existent: how, then, can it be negative?

The objection is not pointless. If we regarded the negativity of the negative assertion as lying entirely in the mental process, negation would be a positive fact. But the negativity in question does not consist wholly in the mental process involved. A mental process, as explained earlier, is not confined within itself; it is always transitive or referential. While in belief the mind either reflectively or spontaneously accepts an objective reference, in disbelief it rejects a previously suggested reference after deliberation or by a direct appeal to facts.

Belief may be either reflective or not: but disbelief is at a higher remove, since it is *always* reflective or self-conscious. Here we have already the suggestion of a characterisation contained in doubt, interrogation, or supposal, and disbelief is a deliberate rejection of this suggestion. It is thus always parasitical in character.

10. The parasitical character of the negative judgment has led some thinkers to believe that all negation is the denial of a previous judgment. Thus Sigwart holds that "a negative judgment is not co-ordinate with a positive judgment, but dependent on it", because every negative judgment involves the denial of some other judgment. (*Cf. "Logic", Vol. 1, pp. 121 f*). Hence a negative judgment is, in his view, what we have termed a secondary and not a primary judgment. The judgment "S is not P" is not, it is alleged, a judgment concerning S, but concerning the judgment "S is P" which it denies.

This view is equivalent to that of the mathematical logicians who equate the judgment "It is false that S is P" with "S is not P". (*Cf. Russell, "Principles", pp. 18 ff*). Keynes also holds, somewhat inconsistently, that regation "always involves the denial of some other judgment". But in his case the mistake is due to a loose use of the term judgment, sometimes in the sense of an actual assertion and sometimes in that of an assertible proposition. For he says: "The proposition which we deny may be asserted or suggested by someone else; or it may occur to us as one of several possible alternatives; or it may be put in the form of a question". (*"Formal Logic", p. 119*).

Hence, in general, negation is not the rejection of a previous judgment or *asserted* proposition, but of an *assertible* propositional reference. A negative judgment may indeed be secondary and involve the denial of a previously asserted proposition. But a primary negation, though parasitical, does not amount to the rejection of an already formed judgment. Bergson suggests at times that negation is the denial of a previous affirmation, but comes in the end to declare that "to deny always consists in setting aside a possible affirmation". (*"Creative Evolution", p. 303*).

Denial does, however, consist sometimes in rejecting an actual affirmation: only we should remember that in such cases it is a secondary judgment that assesses the truth-value of a primary judgment or assertion. Thus to deny the assertion "S is P" is to judge that the assertion has negative truth-value or is false.

11. The peculiar character of primary negation,—the negative judgment that is neither evaluative nor inferential,—has been the

cause of much confusion in logical thinking. While some consider it to be more complex than it really is and thereby reduce it to a secondary or evaluative judgment, others suppose it to be much simpler and ignore its parasitical character. A primary negation consists in the rejection of a suggested reference, the suggestion being relative, of course, to the actual situation in which the assertion is made. This is why a primary negation is not exactly co-ordinate with a primary affirmation. A primary affirmation accepts a reference to an existent, while a primary negation rejects such a reference suggested in a previous cognitive state other than judgmental.

Some conclude from this that negation is simply subjective and "does not hold good" outside my thinking. (*Bradley, "Logic", Vol. I, p. 120*). In that case, however, negation would not be judgmental at all. But every negation makes an assertion which is either true or false, and "truth, to be true, must be true of reality". Hence there is always an objective basis for a primary negation, even though the basis is partly or even largely unknown. It is an incompatibility between the objective basis and the rejected reference that makes the negation true, while the absence of any opposition makes it false.

Others have contended that there are a few cases of "pure negation" or negation without any objective basis. "Thus", says Johnson, "we may in a rapid survey discover the *absence* of any object within a given place, independently of any knowledge—by observation or otherwise—of its presence in some other place; and this is sufficient to dispose of the contention that there must be positive ground for a negative judgment". (*"Logic", Part I, p. 69*). But he is wrong in supposing that the positive ground is to be found in a previous judgment about the presence of the object in some other place. In fact, such an assumption would lead to the position that the denial of the existence of an object must be preceded by a knowledge of its existence somewhere and somewhen. The positive ground in the case cited by Johnson lies in the place empty of the expected object. Without a previous expectation or suggested reference, the knowledge of the absence of that object would not occur at all. Only a "silly negation" like "virtue is not blue" or "a parallelopiped is no monster of iniquity" would seem to be "pure" or "wholly subjective". But these are no exceptions, being nonsensical sentences that express no actual judgment or thought.

12. The recognition of the objective basis for negation has led some thinkers to ignore its parasitical character and thereby place it on the same footing as affirmation. But such a position raises the ghost of negative facts as the referents of negative judgments. Russell believes that "there are negative facts", though they are "not sensible", and the New Realists would have no difficulty in finding room for such facts in their multiform scheme of things. (*Cf. Russell, "The Analysis of Mind", p. 276*).

But the realistic zeal of the Americans over-shoots the mark and robs facts of their existential aspect, all of them being likened to logical entities and relations. Russell is dimly aware of the proper objective basis for negation, as also the Sāṃkhyas and the Prābhākaras, all of whom refuse to posit non-existence as a fact alongside of existence and would yet vindicate the objective reference of negative assertions. But they all ignore the parasitical character of negation and fail to give a satisfactory account of the whole situation.

We cannot discuss here the view of those Buddhist thinkers who regard total non-existence or emptiness as the one ultimate reality. It is the *reductio ad absurdum* of hypostatising an abstract concept stripped of all contents, (like an onion peeled to its core), and yet supposed to be something though indescribable in character. Somewhat less startling is the Vedāntist doctrine that non-existence is an irreducible feature of empirical objects, which can be grasped by a unique form of knowing called non-cognition or *anupalabdhi*. We have contended in these pages that all reality is existential as made up of existents having diverse characters and related in various ways. The fundamental features of reality are "categorial" in the sense explained in a previous chapter. Non-existence is no category but a "pseudoconcept" with no objective counterpart alongside of existents.

The objective basis of a primary negation is an "otherness" more or less articulated in character. It may appear in the form of a mere numerical distinction betwen two things or in the form of a difference in respect of quality, quantity, or relation. But we have no right to raise this incompatibility to the status of a fact on a par with the existential aspect of reality.

The Naiyāyika comes nearest our position in that he regards non-existence as objective though adjectival to existence. We have rejected non-existence as a "pseudoconcept", and accepted otherness as the objective basis of all primary negations. But otherness is not adjectival to existence, for we refuse to reduce our seven categories to existence and quality alone. The spectre of non-existence is laid the moment we recognise the parasitical character of negation. A primary negation is always initiated by a previous question, doubt, or supposal and consists in the rejection of such a suggested reference.

13. Let us labour this point even at the cost of some repetition. Judgment is the acceptance of a propositional reference, but negation has been found to consist in the rejection of such a reference. In what sense is negation, then, judgmental at all?

A negative judgment in its explicit rejection of a reference accepts implicitly another reference opposed to the former: and it is the acceptance of this implicit and incompatible reference that endows negation with its judgmental character. In the judgment "S is not P" we reject the reference "S being P" because it is incompatible with another reference, say, "S being Q" where Q is other than P. Our primary interest, however, lies in the suggested reference "S being P"; hence as soon as we find that Q, but not P, is there in the suggested context, we simply say "S *is not* P". If there were no previous suggestion, we should have said instead "S is Q".

Hence in the negative judgment there is, so to say, a double-barrelled reference, partly explicit and partly implicit. Or, if this sounds unhappy, we should say that the propositional reference of a negative judgment is implicit; it does not appear in its true colours in the verbal expression. The form "S is not P" merely emphasises the rejected reference, but the reference that makes negation judgmental is not made explicit therein. *That* it is a judgment is indicated by the copula; but *what* propositional reference it asserts is not brought out by the verbal form.

This, however, is quite natural and justified too. The proper function of negation is to reject irrelevant references, but not to indicate what the genuine reference is. That is done by the affirmative judgment. In this sense, Dewey is right when he says that affirmation and negation have co-ordinate functions. But we should not, on that account, ignore the parasitical character of negation, a character not emphasised by the traditional symbolic form "S is not P". In mathematical logic, the affirmative proposition is symbolised by p and the corresponding negative by non-p, or $\overline{p}$, or p'. This representation is better in regard to the structural aspect, but ignores the epistemic aspect which is denoted by the negative copula in the older symbolism. May we suggest the form *"Not that S is P"*, which indicates both the structural and the epistemic difference of primary negation from primary affirmation denoted by "S is P"?

The form "Not that S is P" should not be confused with "It is false that S is P", or which is the same thing, " 'That S is P' is false". While the first is a primary judgment or assertion rejecting a proposed reference, the second and the third are secondary judgments which are far more complex. The first is a factual or descriptive judgment made *about* a thing, the other two are value-judgments passed *upon* a previous assertion. The latter are evaluative judgments of the noetic type on a par with moral and aesthetic judgments. We will discuss this point fully in the sequel and may pass on here.

14. It should be noted, however, that what is called "double negation" must not be equated with a primary affirmation. "It is false that S is not P" is *not* equivalent to "S is P". To contend that they are equivalent to one another is to ignore the *epistemic* side of judgments. Both the judgments may be based on the same factual situation, but that does not make them equivalent. Those who reduce double negation to primary affirmation may with equal justification abolish all distinction between affirmation and negation. And it is far more incorrect to consider double negation "an unintelligible piece of grammatical device which presents no function of thought whatsoever". (*Cf. Dr. A. C. Das, "Negative Fact, Negation and Truth", p. 135*). We do pass negative value-judgments on negation as well as on affirmation.

CHAPTER IX

SIMPLE AND COMPLEX ASSERTIONS

1. We will discuss here the traditional distinction between categorical and conditional judgments. This distinction is said to be one of *relation*. Every judgment, we are told, has a subject and a predicate. Now, if the predicate is asserted of the subject without any condition or under all circumstances, the judgment is said to be *categorical*. If, on the contrary, the predication is made under specific conditions, or subject to certain limitations, the judgment is known as *conditional*. Conditional judgments, again, are of two types. If the conditions are mentioned in a clause introduced by "if" or some such word, the judgment is hypothetical; but if we have no explicit mention of conditions, and are told that one or other of two (or more) alternatives is true, the judgment in question is known as disjunctive.

But this division is wholly confused. Consider, first of all, the categorical judgment. If the predicate can be asserted of the subject under all circumstances, the judgment is obviously general. Are we then to conclude that no categorical judgment can be particular? By what sort of judgment are we then to express particular truths, to indicate particular occurrences which are unique? Does, then, the unconditionalness of the judgment in question mean that if it is true, it is true not only at the time the judgment is made but at all times? That is true of all judgments and cannot be the special character of a categorical judgment. Wherein lies, then, the unconditionality of the categorical judgment? Perhaps a categorical judgment is a mere assertion and that is all that can be said about it. But in that case the categorical judgment cannot be one of the sub-classes of judgment.

Do the traditional logicians realise that the division of judgments according to relation goes against the rules formulated by themselves for the correctness of logical division? What is the *fundamentum divisionis* in the present division? It will not do to say that the principle of division is "the quality of being subject to a condition or not", for that, we have seen, will lead to the categorical judgment being regarded as always general. Moreover, what does the phrase "division according to relation" mean? In traditional logic the only relation between the subject and the predicate is one of inherence, the relation of substance and attribute. How can it speak of a division of judgments according to relation? The admission of other relations will not improve the case so long as we retain the subject-predicate form. For if the relation, whatever it is, is between the subject and the predicate, where is the corresponding relation in a hypothetical or a disjunctive judgment? If the division in question is on the basis of relation, we should have different kinds of relation between the subject and the predicate in the different classes of judgments. But where is the subject, and where the predicate, of a hypothetical, or of a disjunctive judgment?

2. At this point we must take up an important question which was ignored in connexion with affirmation and negation. In these two forms of judgment the predicate is said to be either accepted or rejected by the subject. Apart from the fact that the logical subject cannot as a rule accept or reject anything, are we justified in drawing this distinction between subject and predicate? This will sound, we are sure, rather startling because of the habitual modes of thought, but our question precisely is: Is this analysis sound in principle? Mathematical logicians have already pointed out that the subject-predicate form with its traditional significance is not available in the case of what they call "relational judgments". The procrustean bed designed by Aristotle has been responsible for the mutilation of many types of judgment with a consequent poverty of logical thought. But our criticism goes deeper still. *We regard the distinction between subject and predicate as artificial and unsound.* Consider, first of all, the hypothetical judgment. Since it is a judgment,—logicians are unanimous on this point,—it must have a subject and a predicate. But where are these to be found? And where are they in disjunctive judgments which also are cases of genuine judgment? Either these must be driven out of the class of judgments, or all distinction between categorical and conditional judgments should be liquidated, or the subject-predicate heresy must be given a decent burial with bell, book and candle!

At first sight, the distinction between subject and predicate is quite plausible. As Aristotle would say: the subject is that about which we think and the predicate is what is thought about the subject. (*cf.* "*De Interpretatione*", *17a 25*).

Whatever the nature of the subject or of the predicate, there seems to be a clear distinction between the components of judgment.

The subject is the starting-point of thought and the predicate indicates its subsequent course. But what does this mean precisely? Are we to suppose that the subject by itself is a unit of thought and so also the predicate? This surely cannot be the intended meaning of the statement. Possibly it means that the complete situation to which our thought is directed has a complex structure, all the features of which cannot be apprehended at once. But every act of apprehension concerning a particular feature will form a particular judgment, and how are we to make cuts across that act?

It will possibly be replied that every judgment is at once analytical and synthetical. The total object which is known in a single judgment has more than one feature: when we attend to the features we analyse the object, and when we note that the features all belong to one object, we synthesise it. One feature first attracts our attention and that is the subject; and the feature that next occupies our thought is the predicate, and the judgment consists in synthesising these two features. But in that case what right have we to say that the subject is a real and the predicate is an ideal content? If we do not say so, are we to regard both the elements as ideal or real? If both of them are ideal, how can we be sure that any of our judgments are true at all? And if both of them are real, how does it happen that some of our judgments are false? And how are we going to justify the inclusion of conditional judgments in our schedule of judgments when there is no common factor among all judgments?

We maintain that there is a feature common to the different types of judgment, and that the subject-predicate dogma conceals it under an aura of verbal mysticism. Every judgment is the assertion of a propositional reference or the acceptance of a reference to objects. No other theory of judgment can do justice to the different aspects of the knowledge-situation. The whole judgment, in our view, is analysable, not into a subject and a predicate, but into an epistemic and a structural aspect. The epistemic aspect is belief which may be symbolised by the copula, and the structural aspect is the propositional reference, or briefly, the proposition. And these twin features are present in every form of judgment, whether primary or secondary, categorical or conditional. The recognition of this truth cuts many a Gordian knot with perfect justification. We have already seen the merits of the theory in connexion with meaning and truth, and will now discuss its bearing on the distinction between categorical and conditional judgments.

3. The hypothetical judgment is of the form "If A, then B", or "If P is X, then Q is Y". How is the subject-predicate doctrine to explain the nature of the judgment? Is the antecedent the subject of the judgment, and is the consequent its predicate? Do we simply mean that "A is B" in the first of the above examples? In that case, the hypothetical would differ only verbally from the categorical judgment: and instead of a division of judgments we should have a division of sentences. Further, what are the subject and the predicate in the second example which is more typical of the hypothetical judgment? Is "P is X" one term and "X is Y" another? Such an interpretation is absurd on the face of it. Are we then to take "Q is Y" as our judgment and "P is X" as the condition under which the judgment is true? This seems plausible and logicians like Joseph have tried to justify it. (*"An Introduction to Logic", p. 184*).

But are those thinkers aware of the real difficulties involved here? If the judgment is "Q is Y", though it is conditional on "P is X", the assertion must be about "Q being Y". But while going to explain this assertion, they shift the ground and declare that the assertion is not about "Q being Y", but about the *dependence* of "Q being Y" on "P being X". This, however, introduces further difficulties. If the assertum is the fact of dependence, the assertion of it is surely unconditional, and in what sense then do we call the judgment conditional? But apart from this terminological inaptness, we are plunged into bottomless pits of obscurity.

Let us take Joseph's own example: "If Hannibal had marched on Rome after Cannae, he would have taken it". Here the consequent is "Hannibal taking Rome", but it is surely not the assertum, for we know that he did not, as a matter of fact, take it. Is the assertum, then, the dependence of one fact on another? But we know that neither the antecedent nor the consequent refers to an actual fact. What, then, is our assertum in the present case?

4. Bradley could be expected to give a satisfactory account of the situation, for in his view all judgments in the end, i.e. at bottom, are hypothetical. At one place he says that in a hypothetical judgment "the assertion is about mere hypothesis; it is not about fact". (*"Logic", Vol. I, p. 47*). This statement is made in connexion with universal judgments. When we say "Animals are mortal", we mean "Whatever is an animal will die", which is equivalent to "If anything is an animal, it is mortal". But if the hypothetical judgment makes an assertion, where is the logical subject of the assertion?

Bradley must of course say that the subject is a portion of reality; but he hesitates. He says: "If we steadily keep in view the difference between a simple assertion about a fact and an assertion on the strength of and about a supposition, we may perhaps be puzzled, but we are not likely to be led far astray". (*op. cit., p. 83*). But where is the royal road we are likely to take? How can Bradley speak of an assertion about a supposition? It may no doubt be replied that the supposition is a mental fact and the assertion is about it. But is that the meaning of the judgment? The supposal is a fact indeed "inside our heads", but the assertion is not about supposal in judgments other than introspective. Besides, such an interpretation goes against the whole tenor of Bradley's doctrine. He must mean that the assertion is about a quality of Reality, which is the basis of the relation between the supposition and the consequent. In fact he does say so elsewhere in the same work. (*p. 90*). "What hypothetical judgments assert is simply the quality which is the ground of the consequence". This is true so far as it goes, but still the difficulty remains: How can there be a real ground in the universe of a thing that never happens?

5. Cook Wilson suggests that a hypothetical statement affirms the solution of one problem upon that of another. In his own words: "The assertion in any hypothetical statement is that one problem includes another, or that one question is identical with another and that the grounds of this connexion or relation are based on non-problematic considerations. These latter are implied but not stated explicitly in the hypothetical statement". (*"Statement and Inference", Vol. II, p. 551*). But this is Bradley over again, speaking a somewhat different language.

Joseph contends that neither problem may be soluble and yet the hypothetical statement may be true. "If the *Phaedo* is historical, Socrates believed in the immortality of the soul". Here, says Joseph, we have a true hypothetical judgment, even though neither the antecedent nor the consequent, each representing a problem, is soluble by us. He accepts the Bradleyan interpretation and supplements it by saying that "connexions, or principles of connexion, exist in a different way from the particular things and events in which they are displayed or illustrated. They are, even when they are not exemplified". (*op. cit., p. 185*). "These connexions which somehow are, even though the conditions for their display donot exist, are the 'ground' which the hypothetical judgment affirms of the real". (*p. 183*).

6. The referent of a judgment has been found by us to be an existent or a subsistent (which is an abstracted feature of existents). It is in neither case an atomic entity unrelated to other things and shorn of all qualities. On the contrary, the referent is a complex situation containing all the categorial features in perception and most others in memory and introspection. But while some judgments assert a simple reference to existents, some others assert a complex reference made up of more than one reference. This is because every judgment does not refer to categorial features alone. Or rather, any categorial feature may assume diverse forms some of which are specific relations among existents. And some judgments involve reference to complex relations among subsistents.

Now, a judgment that asserts a simple reference to one or more categorial features of existents may be called a simple judgment: whereas a judgment that asserts a complex reference to existents or subsistents may be designated as a complex judgment. What ordinarily goes by the name of the categorical judgment (of the particular, not general type) is a simple judgment; and the so-called hypothetical is a complex judgment that asserts a specific relation between two or more references. This relation has been regarded by Wilson as the dependence of the solution of one problem upon that of another, and by Joseph as "a connexion which somehow is even though the conditions for its display do not exist". Bradley considers it to be a quality without indicating what sort of quality it is.

7. We prefer to call the relation implicative because its referent is a relation among existents (or subsistents) that justifies inference as to their existence (or subsistence). Implication, as we shall see hereafter, is a unique relation among the component propositions of an inference that guarantees the validity of the process. Now, the relation between the premises and the conclusion of a correct inference is such that when the former are true, the latter is true as well, and when the latter is false, the former, too, are false. A somewhat similar relation obtains between the antecedent and the consequent of a so-called hypothetical judgment. The truth of the consequent (if asserted) is declared to depend on the truth of the antecedent (if asserted). The hypothetical judgment does not, however, assert a relation between assertions or judgments, but only a relation between assertibles or propositions. The proposition that is actually asserted is a relation between the references of the antecedent and the consequent.

This is where the hypothetical judgment differs from an inference. The propositions of the component judgments of an inference are actually asserted and not merely entertained. The premises are actual assertions that justify the conclusion which, too, is an actual assertion : but the antecedent of a hypothetical judgment is a would-be assertion that would justify another would-be assertion which is the consequent. This shows at once the similarity and difference between the hypothetical judgment and inference. Such a judgment, as distinct from a simple assertion, is implicative because it asserts a complex proposition that is an implicative relation between simpler references. Those who regard all judgments as inferences, implicit or "suppressed", forget that even the implicative judgment falls short of inference. And those who would "reduce" such a judgment to the "categorical" ignore its complex character.

8. The complexity of the hypothetical judgment is epistemic as well as structural. While its structural aspect consists in an implicative relation among two or more propositions, its epistemic aspect involves both belief and supposition. An attitude of supposal presents the propositions, and the judgmental act consists in accepting an implicative relation among them.

In a simple affirmation the structural factor is simple, consisting of a single proposition which is at once referred to the objective situation. In a negative assertion, a previously suggested proposition is rejected by reference to objective facts. In a hypothetical judgment an implicative relation is asserted as holding between previously suggested propositions. As we move from the affirmative to the negative and from the negative to the hypothetical judgment, the structural aspect becomes more and more complex and so also the epistemic side. First we have a direct assertion; next we have a parasitical assertion dependent on a previous suggestion; and then we have another parasitical assertion depending on two previous suggestions related in a certain fashion.

9. It may be asked : How are we to distinguish between true and false hypothetical judgments, since the assertum in each of them is a relation of implication which is not an existential fact? The reply is that no direct verification is possible here as in the case of simple judgments. Where the assertum is a reference to existents, we can easily determine the truth or falsity of the assertion by an appeal to them. But even in such cases a direct appeal is not always available, nor is it often the sole arbiter of the case. For an appeal

to facts would give us another assertion, and if we tried to verify *that*, we would need another assertion and so proceed *ad infinitum*. Hence, except in the case of basic assertions (which are all simple), the *criterion* of truth is not congruence between assertions and facts, but between one assertion and others already accepted as part of human knowledge.

When the implicative relation asserted in a hypothetical judgment holds between two (or more) propositions referring to abstractions, we can with comparative ease determine its truth or falsity. The relation of implication is itself a proposition, and when it refers to abstractions, the truth of the judgment can be ascertained by conceptual analysis, i.e. by analysing the relation between the abstractions referred to. The truth of such a judgment is at bottom nothing but the self-consistency of thought, abstractions being results of systematic analysis guided by the "Laws of Thought". In such a case, and in such a case alone, the implicate may be said to follow *necessarily* from the implicans. This means that if we carry our analysis of "If P, then Q" far enough, we will find that the simultaneous affirmation of p and denial of q involves us in self-contradiction. In other words, in such cases, we cannot think p to be true and q false at the same time. Thinking means judging which is an actual mental process expressible in language; but a mere jumble of words does not amount to actual thinking. This is not to suggest that implicative judgments of the subsistential type are tautologies. Tautologies are self-consistent sentences but they do not symbolise actual acts of thought. Subsistential judgments are necessary because they assert each a relation of ground and consequence. They are analytic but not tautological. This will be explained further in the sequel.

But it is quite otherwise with existential judgments of implication that refer to empirical objects. True, here also implication, just like the implicative relation among "subsistential" propositions, means that, when p implies q, q is true when p is true and p is false when q is false. But the *truth* of the implicative relation asserted cannot be determined by conceptual analysis, but only by an appeal to facts, near or remote. That appeal, we have seen, relies on coherence or consistency with the general system of human knowledge, all the items of which are not analytical judgments depending on mere self-consistency, or obedience to the "Laws of Thought". Any empirical i.e. existential assertion must be consistent with the general body of existential assertions and these are all synthetic and contingent.

It should be noted here that most thinkers identify the implicative relation present in all inference with the relation of ground and consequence present in deduction only. The latter is at bottom subservience to the "Laws of Thought", but not so the relation of implication as an inalienable feature of all inference. If, however, we reduce induction to deduction, we may identify the relation of implication with that of ground and consequence. Philosophers have often regarded the causal relation, which is present among existential objects, as involving, or even identical with, the implicative relation characterising all inference. And by abolishing all distinction between implication and the relation of ground and consequence, they feel justified in regarding causality as a necessary relation. But since we regard Hume's criticism of objective necessity in the causal relation as definitive, Kant's answer to Hume really missing its mark,—we see no reason for reducing implication to the self-consistency of thought. Implication is the structural aspect of all inference inductive as well as deductive, and we should not identify it with the relation of ground and consequence present in deduction only. A full discussion of the point, however, will be attempted in the sequel.

Meantime, when the objective basis is a relation of ground-and-consequence, the assertion in question may be termed "consequential"; and when the objective basis is a causal relation, which is always a relation in time, the implicative assertion may be called "sequential". While the implicative judgment of the consequential type yields to demonstration, no demonstration is possible in the case of the sequential variety. The latter is amenable to verification, direct or indirect. The sequential judgment expresses a contingent, while the consequential a necessary truth. The distinction between them may be shown by the use of "must" in a consequential judgment.

We have rejected the view that even an implicative judgment is a "suppressed inference". But there is a sense in which such a judgment may be said to be a would-be inference. For as soon as we assert both the antecedent and the consequent, the judgment is replaced by an inference. Now, the antecedent may be elliptical when it does not contain the full implicans. And what seems to be a sequential judgment is at times really a consequential judgment, which becomes apparent when the complete implicans is brought out. Thus the example cited by Joseph, viz., "If Hannibal had marched on Rome after Cannae, he would have taken it" is really a consequential judgment, and its truth does not depend on a sequential but on a consequential relation implicit therein. Similar is the case with another of his examples, viz., "If the *Phaedo* is historical, Socrates believed in the immortality of the soul".

The test of a sequential judgment is that it is the result of *induction*, whereas that of the consequential is that it is the result of *deduction*. The precise senses of "deduction" and "induction" will be explained in the sequel. The point to be noted here is that a sequential judgment, to be true, must have an objective basis in a causal relation (the antecedent or consequent may be either the partial or total cause as well as effect). A consequential judgment, on the contrary, requires for its truth a relation of ground and consequence which obtains among abstractions and "*is*, even when the conditions for its display do not exist". This removes the perplexity in which Joseph finds himself.

10. We propose the name "conjunctive judgment" for the traditional hypothetical on account of the following reasons. The old name is misleading in that it seems to find the essence of this type of judgment in supposal or hypothesis which can form no part of the epistemic aspect of any judgment. We do not call negation "suggestive judgment" even though it consists in the rejection of a suggested reference. Indeed, some have questioned the judgmental character of the hypothetical by insisting on the supposal that precedes this kind of judgment. But the hypothetical, as we have seen, is truly judgmental and its essence lies in asserting an implicative relation among its component references. Implication may, however, be positive or negative (as we will argue presently). The disjunctive judgment asserts a negative implication, while the hypothetical asserts a positive one. Positive implication conjoins or connects references, while negative implication disconnects or disjoins them (in the sense to be explained presently). Hence both the hypothetical and the disjunctive are implicative judgments of the positive and negative varieties. The hypothetical may be called "conjunction" in order to show its likeness to and difference from "disjunction".

Some may object to the suggested name because conjunction implies mere juxtaposition symbolised by "and". But what ordinarily goes by the name of the "conjunctive judgment" is a mere combination or summation of two discrete judgments (not propositions) and needs no separate treatment in logic. The basal forms of judgment recognised by us are *units* of thought, and hence we find no real objection to the proposed terminology.

11. Next we take up for consideration the so-called disjunctive judgments which are placed alongside of hypothetical ones in the traditional schedule, both being regarded as variants of the conditional type. "A is either B or C"; "Either P is Q, or R is S"; "He is either a saint or an impostor"; "Either the teacher is inefficient, or the student is dull". These are some examples of the disjunctive judgment. But what is the precise assertum of the disjunctive judgment? In "A is either B or C", do we assert that A is B? Plainly not. Do we assert that A is C? Surely not. Then what do we assert? It may be replied that what we assert is that A is either B or C. But that is the original statement over again, which does not express clearly the nature of the assertum. An assertum is a propositional reference, and what is precisely the reference in the present case? The assertum cannot obviously be a simple proposition, for that would reduce the disjunctive judgment to a simple assertion, which, plainly, it is not. (*Contrast*: *Keynes, "Formal Logic", Sec. 190*).

The assertion in a disjunctive judgment is a relation between two or more propositions, and is thus complex. The assertum, in the above case, is a relation between "A being B" and "A being C". But what, precisely, is the nature of the relation between them? Apparently, it is not one of implication. We do not say that "A being B" implies "A being C". We mean that one of these has an objective basis. Hence it is ordinarily said that the disjunctive judgment makes an alternative assertion. And this is why some recent logicians prefer to call it "alternative judgment", the proper disjunctive judgment being, in their view, of the form "Not both P and Q", or "Not both 'A is B' and 'A is C'." (*"Cf. Dr. Stebbing, "A Modern Introduction to Logic", p. 41*). While the alternative judgment asserts that one of the propositions at least is true, the disjunctive judgment asserts that both of them cannot be true. While the one makes an alternative assertion, the other makes a disjunctive assertion.

But why do we not make a straight assertion? Because we have some doubt as to the exclusive *truth* of either (in the case of the alternative judgment), or a doubt as to the exclusive *falsity* of either (in the case of the disjunctive). But if there is doubt, how can either of them be a judgment at all? The reply is that while we have doubt regarding the *exclusive* truth or falsity of either proposition, we have no doubt that one or other of the constituent propositions has an objective basis, or none. But what does it exactly mean? Does it not suggest that the constituent propositions are related by doubt, which is absurd on the face of it? Doubt is a mental attitude, and as such cannot function as a structural relation among propositions. Further, there would be no fact corresponding to the doubt in the objective world so as to make the judgment true. "Either—or" as a phrase expresses a mental attitude, the attitude of vacillation or lack of decision, and it would be preposterous to seek a corresponding fact in the non-mental world. Facts simply are; they are not either this or that. Similarly, doubt as a mental process simply is; it is not "either—or".

Hence if we are to find out the proper meaning of "either—or" we should not seek it in the world of existents. It is a referential function, a function of propositions, a relation between them. But what is the nature of that relation? Moreover, if it is, as it seems to be, a structural relation among propositions, it must have an objective basis in order to make the judgments true or false. In particular, when such judgments deal with empirical facts, the objective counterpart of the said relation must be a relation among mental or physical events.

12. It may be objected that this search is misguided, for it is a search after a will-o'-the-wisp. The disjunctive judgment does indeed make an alternative assertion, but the assertum refers, it may be said, to the determinable of which the constituent propositions contain determinants. "A is either blue or green" may be taken to assert that A is a colour. But that is not the meaning of the original statement. Does the judgment, then, assert that A is a colour intermediate between blue and green? Certainly not: in that case, as in the previous one, it would be a categorical judgment quite different in meaning from the above judgment. What then does it assert?

It is such difficulties that have led most thinkers to regard the disjunctive as reducible to a number of hypothetical judgments. But the so-called reduction is often more grammatical than logical; it succeeds by explaining away a real difficulty,— by ignoring the very fact to be explained. Besides, in their attempts at reduction, logicians fall out among themselves. Some say that the disjunctive (with two alternatives) is to be reduced to two hypotheticals, while others say, to four. Thus some regard "A is either B or C" as equivalent to (i) "If A is not B, it is C", and (ii) "If A is not C, it is B". But others add two more: (3) "If A is B, it is not C"; and (4) "If A is C, it is not B". The advocates of the former interpretation sometimes say that the last two are admissible only when B and C are contraries, or contradictories. But others say that the last two are not really available, since the disjunctive judgment merely makes an alternative assertion.

It is this consideration that has led some recent logicians to recognise the "real" disjunctive judgment alongside of the alternative which has been traditionally designated as the disjunctive. While the alternative judgment declares that one or other of the alternatives is true, the disjunctive judgment really disjoins by asserting that both the alternatives cannot be true. This opinion is a necessary corrective to those who in their zeal for verbal manipulation forget the epistemic aspect of the judgmental situation. And it is all the more welcome coming, as it does, from those who would confine logic to the discussion of the structural aspect of judgments.

But how do these logicians explain the implicative relation asserted by the hypothetical judgment? What does "If p, then q" mean? They say that it means "p implies q", or that "q follows from p". But a further analysis shows that the implicative relation fully expressed is this: Whenever p is true, q also is true: *and*, whenever q is false, p also is false. Hence the implicative relation is double-edged, as it were: its full explication involves the concepts of both truth and falsity. So, when we have reduced "A is either B or C" to "If A is not B, it is C", we have got the second form as well. For by denying the consequent of this hypothetical, we can deny its antecedent, and that is the second hypothetical admitted by all. This would make the disjunctive equivalent to a hypothetical, in which case the disjunctive need not be recognised as a distinct form of judgment. But the disjunctive does have a distinctive function which is not clear till we have admitted a second hypothetical, concealed in the disjunctive, of the form "If A is B, it is not C". Thus Ueberweg was right when he regarded the disjunctive as reducible to four hypotheticals; but he failed to see that two of these are superfluous. Thus, in our view, the disjunctive "A is either B or C", if reducible at all to hypotheticals, must be reduced to the following: (i) "If A is not B, it is C", and (ii) "If A is B, it is not C".

13. It is clear, then, that the traditional disjunctive judgment cannot be placed alongside of the new alternative judgment. For a judgment of the form "either—or" does contain disjunction as part of its full meaning. Bradley is right when he holds that the disjunctive judgment (in the old sense) cannot be regarded as merely

alternative. "Or", he admits, does disjoin: it does include an element of exclusion. The speaker who asserts that A is either B or C *does not* say that A may be both: he is interested in the fact it is one of these two. "But our slovenly habits of expression and thought are no real evidence against the exclusive character of disjunction. 'A is B or C' does strictly exclude 'A is both B and C'. When a speaker asserts that a given person is a fool or a rogue, he may not mean to deny that he is both. But having no interest in showing that he is both, being perfectly satisfied provided he is one, either b or c, the speaker has not the possibility *bc* in his mind. Ignoring it as irrelevant, he argues as if it did not exist. And thus he may practically be right in what he says, though formally his satement is downright false; for he has excluded the alternative *bc*". (*Bradley, "Logic", Vol. I, p. 131*).

According to Bradley and his followers, every judgment is partly false because it must refer to the whole of reality which, however, it fails to catch in a single judgment. But if, as he himself admits, every judgment is a truth-claim, no judgment can be condemned as false simply because it does not say what it never claimed to have said. The above quotation brings out this point at an unguarded moment. Bradley recognises that the speaker *may not mean* that A is not both b and c, and yet if he fails to express that, the judgment is downright false. In their insistence on the *objective* side of the judgmental situation, Idealist logicians forget often its *epistemic* side. If I do not mean that A is not both b and c, I cannot be said to have stated a falsehood by being silent on that point. This is to ignore the epistemic aspect of the concrete judgment, a crime with which the Idealist thinker would charge the mathematical logician. He fails to explain how judgment can involve doubt, and tries, in a surreptitious way, to locate it in the object. But such an attempt has no chance of success. The peculiar difficulty involved in the disjunctive judgment has not yet been properly realised. If logicians had gauged the real difficulty, they would not have contradicted themselves by accepting and rejecting the element of doubt as occasion demands.

The "either-or", we maintain, stands neither for a purely mental process, nor for an objective fact in a simple way. If we accept doubt as an element in the epistemic aspect we have no assertion, belief, or judgment. If we locate it in the objective situation, we virtually reduce the disjunctive to a simple assertion. If we exhibit it as a number of hpotheticals in the way done by previous thinkers, we do not explain how it differs in any way from a mere combination of hypotheticals. And in that case the disjunctive judgment can have no claim to a distinctive place in the schedule of judgments.

14. The only hope for the disjunctive lies in the discovery of a proper structural relation. The relation that we are seeking between "A being B" and "A being C" is of such a nature that when the assertion of "A being B" is false, that of "A being C" is true. May we not, then, say that "not-A-being-B" *implies* "A being C"? If we write p for "A being B" and q for "A being C", we may restate the above relation as "not-p implies q". That would mean that (i) "If not-p, then q", and (ii) "If not-q, then p". And we have seen that the hypothetical judgment "p implies q" is equivalent to (i) "If p, then q" and (ii) "If not-q, then not-p". In other words, *while in a hypothetical or conjunctive judgment one constituent proposition implies the other, in a disjunctive judgment the negative of one constituent proposition implies the other.*

Now, "If p, then q" refers the implicative relation between p and q to objective reality. But what is the precise reference of the disjunctive judgment "Either p or q"? In usual interpretations, *either* it is held that we have doubt as to the exclusive truth of p and q, or it is contended that he assertum is a *determinable* of which the predicates of p and q are determinants. The first interpretation holds in effect that the disjunctive is no judgment at all, and the second reduces it to a categorical judgment with an attenuated assertum. But the person who makes a disjunctive judgment *means* neither of these two things. He does make an assertion and the assertion is not about the determinable. When I say "A is either blue or green", I do not mean that I have no belief as to the nature of A, nor do I mean that it is a colour only, which indeed is often otiose. What do I mean then? In spite of Bradley, what I mean, that is the propositional reference or assertum. I have, after a previous examination (which need not take much time), come to *believe* that A is either blue or green, one of these two colours. And I do not mean that it is any colour, or, again, a colour intermediate between blue and green. There may be some plausibility as to the last version in the case of the present judgment, but if we examine other instances, we shall have no difficulty on this point. "He is either a saint or an impostor" : do I, can I, mean that he is a cross between a saint and an impostor?

Hence we must torpedo the contention that there is no disjunction in the disjunctive judgment but a mere "alternative assertion". When I take the judgment out of its context, I may make its verbal expression mean almost anything I please. But such a procedure kills the very life of the judgment, which is always a concrete belief given expression to in a particular situation. If I had meant that "he" might be both, I would have added "or both" : but such an addition is wholly uncalled for in the present case. A man cannot be both a saint and an impostor at the same time, and hence it is superfluous, indeed ludicrous, to rule out that suggestion. We must not forget the important truth that judgments are always made under particular circumstances, and that the real meaning of a judgment is to be gathered from the situation in which it is made.

Any judgment may be either true or false; but it is the self-imposed task of the Idealist logician to pump out a reference to Reality in every judgment, whatever the intention of the person who makes the judgment, so as to make it absolutely true, which it can never hope to be. Apart from the fact that the Absolue Truth is no truth at all but Reality over again, no person asserting a particular proposition means to refer to the whole of reality or the universe. It is therefore preposterous to suggest that the assertion "A is b or c" is *formally* "downright false", because the alternative bc has been excluded. The non-inclusion of bc makes the above judgment, in Bradley's view, formally false. But would the inclusion of bc make it true? Truth is not a matter of mere form and such inclusion of bc cannot guarantee the truth of the judgment, for A may be none of these things. The judgment may be false in spite of the inclusion of the alternative bc; and, contrariwise, it may be true even if the alternative bc is wholly left out of account.

The judgment "A is either b or c" really excludes the alternative bc, and, hence, if we think that it may be both b and c, we should formulate a different judgment, "A is b, or c, or bc". But it is not necessary to add "not both", when we think that "A is either b or c". The disjunctive judgment does really disjoin, and hence the name "alternative judgment" is not an adequate description of it.

The statement of Bradley that unless we add "or both", the disjunctive judgment "A is either b or c" becomes *formally false* reveals an interesting fact. Formal logicians want to impregnate the pure form with the germ of truth, and hence they hold that both the alternatives of a disjunctive judgment may be true. Bradley feels that this is not the meaning of such a judgment, and guided by the same motive, declares that the form must be made perfect by the addition of "or both". But we have seen that no such device will be of much help. Both the alternatives may be equally false,—both the qualifications may be equally irrelevant to the situation. The truth is that if you exclude all reference to the context in which the judgment is made, no addition of "or both" will necessarily make it true; whereas if the context is kept in view, the addition of "or both" is incorrect, since the speaker means "not both". If he had meant "or both", he would have said that.

15. It should not be thought that the epistemic factor of a disjunctive judgment is a mixture of belief and doubt, or even moving to and fro between both. It is the confusion of the disjunctive with the problematic that leads people to think that the former contains an element of doubt. No mental state can be a mixture of belief and doubt which are directly opposed to one another. The presence of doubt on the epistemic side of the disjunctive would destroy its character as judgment. Further, the assertum in the case of the disjunctive is not one of the constituent propositions, but a *relation* among the constituents; and it is this whole structure or reference that is asserted in the judgment.

Hence just as the hypothetical involves no element of doubt, the same is true of the disjunctive: and it is precisely for this reason that both are cases of genuine judgment. It is for the same reason that the truth of these judgments is to be determined by seeing if the asserted relation of implication (positive or negative as the case may be) has an objective counterpart or not. In the case of the hypothetical we have seen that the objective basis is either a relation of ground-and-consequence among abstractions, or a causal relation among existential objects. Now, it may legitimately be asked: "What is the objective relation corresponding to the negative implicative relation in the disjunctive judgment?"

16. The objective basis of negative implication is the relation of being determinants of the same determinable, or members of the same class. The constituent references of the disjunctive judgment that is true exhaust all the determinants under the same determinable. Otherwise, we shall have either doubt regarding our selection (in which case disjunction would not be judgmental), or

our belief in the completeness of enumeration would be unjustified (which would make the judgment false).

It must not, however, be supposed that the assertum of the disjunctive judgment is a simple reference to the determinable itself. That would resolve the complexity of the disjunctive judgment and equate it with simple affirmation. On the contrary, the disjunctive has a negative force in that it asserts that the *rejection* of one of the component references implies the acceptance of the other (or others), but not of both.

17. This analysis shows the affinity of the disjunctive with simple affirmation (to the extent that both are judgmental), with simple negation (to the extent that both are negative), as well as with the hypothetical (inasmuch as both are implicative though of opposite characters). These four forms of judgment are at once similar to and different from one another; this is why they are fundamental forms of judgment irreducible to one another. Their truth depends on four different relations among existents or subsistents.

18. Rationalists would reduce positive implication to identity and negative implication to opposition, and secure the truth of the above four kinds of judgment by the "Laws of Thought" alone. Thus the Law of Identity, "A is A", typifies for them perfect affirmation, and the Laws of Contradiction and of Excluded Middle,—"A is not both B and not-B", "A is either B or not-B",—bring out the two-fold aspect of perfect negation.

We should like to restate the laws and add to them another in order to set forth the *formal ideals* of affirmation, negation, conjunction and disjunction, respectively. Thus the Law of Identity says, "A is A"; the Law of Otherness states, "A is not non-A"; the Law of Non-contradiction avers, "If A is B, it is not non-B"; and the Law of Excluded Middle declares, "A is either B or non-B". These are, however, mere tautologies, and no actual judgments can exactly illustrate these verbal forms. They serve perhaps to bring out the basal characters of the four types of judgment treated above and have no other logical value. The "Laws of Thought" that actually underlie our thinking or judging will be discussed in the last chapter.

CHAPTER X

OTHER FORMS OF ASSERTION

1. The traditional distinction between universal and particular judgments is said to be one of *quantity*. Every judgment was supposed to assert a predicate of the subject, the subject being substantival and the predicate adjectival. If the predicate is asserted of *a few* individuals the judgment is said to be *particular*, whereas if it is asserted of *all* the individuals of a class, the judgment is designated as *universal*. It was recognised that there is a third possibility: the subject might be a single individual. Such a judgment was called *singular*. Thus "All S is P", "Some S is P" and "This S is P" stand, respectively, for universal, particular and singular judgments. It is clear that this is a sort of division among judgments according to quantity.

There was, however, some difficulty with regard to the singular judgment. Some recognised its unique character, while others classed it either with the universal or with the particular. Those who were preoccupied with the distinction between "all" and "not-all" saw its kinship with the particular; but those who considered the "distribution" of the subject term placed it alongside of the universal. "Distribution" means taking a term in its entire denotation; and since the singular term denotes a single thing, it is distributed in every judgment where it occurs as the subject. But even here a nice distinction was introduced. If the singular judgment has for its subject a *definite* singular, it is to be regarded as universal; whereas if the subject is *indefinite*, the singular judgment is to be treated as particular. Thus "This S is P" is universal, but "An S is P" is particular.

All this shows that the *quantity* of a judgment is a very vague conception. If it refers to the *number* of individuals figuring as the subject, there are three kinds of judgment; universal, particular and singular, referring, respectively, to all S's, some S's and one S: if the quantity in question relates to the *distribution* of the subject term, the judgment is either universal or particular; the universal is represented by 'all S' and the particular by 'not-all S'. It is immaterial in the latter interpretation whether the subject denotes only one thing or a number of things.

2. This division of judgments according to quantity has more than one serious flaw. For consider, first of all, the word "all' used to indicate a universal judgment. "All the angles of a triangle are equal to two right angles"; "All the angles of a triangle are less than two right angles". In the first example, "all" is used *collectively*, while in the second it is used *distributively*. This defect can no doubt be remedied by a slight verbal alteration. None the less, this ambiguity inherent in the word "all" is partly responsible for the failure to discriminate between *particular* and *general* judgments. "All" may stand for a limited totality, or it may denote each and every one of a class having unlimited members in it. "All the students of my class" refers to a limited number of individuals, while "all students" stands for a class having an unlimited membership. The statement "All the students of my class are bright" is technically a universal judgment, but it has more affinity with the singular judgment than with the general. By "a general judgment" we mean that which refers to an unlimited number of individuals comprising a class. "All students are young" is an example of a general judgment. A singular judgment may be derived from perception, and so also a particular judgment, such as "Some students are bright" or "Some students are young". The so-called universal judgment which refers to a limited totality can also be derived in exactly the same way. "All the students of my class are bright" is really a summary way of stating that "S_1 is bright, S_2 is bright, S_3 is bright.........S_n is bright", where S stands for student and n for the total number of students. A genuine general judgment, however, cannot be derived in the same way. When I say "All students are young", I take a leap in the dark, for the judgment refers to an unlimited number of persons all of whom I cannot have observed. Such a judgment is the result of induction or generalisation.

A general judgment that refers to existents may, *prima facie*, be based on "simple enumeration" or uncontradicted experience, or it may be derived from the assumption or discovery of a causal connexion. But in either of these two forms, it takes a leap in the dark, inasmuch as it is based on partial observation i.e. on the observation of only some, not all, of the members constituting the class. Induction by simple enumeration is a precarious process, but that based on the verification of a causal nexus is secure, so far as security goes in the world of experience. The causal relation is neither identical with, nor involves, the relation of ground-and-consequence which holds among abstractions only. It is the confusion of the consequential relation with the implicative relation present in all inference that has led many to think that the causal or sequential relation involves the consequential. But there is no reason to consider the causal relation as necessary. Hence we must distinguish between a general judgment inductively established (or so capable) and a general judgment in the field of abstractions based at bottom on the Law of Identity or of Non-contradiction.

Thus the judgment "All men are mortal" is essentially different from the judgment "All the angles of a triangle are together equal to two right angles". The former is an inductive generalisation based on a causal connexion and is thus a sequential judgment, while the latter is a consequential judgment derived from the relation of ground and consequence between triangularity and the equality of angles to two right angles. The use of the same word "all" in connexion with both the existential and subsistential judgments hides an important difference between them. And, as we shall see presently, the use of the categorical form conceals the implicative character of both the judgments.

3. Equally ambiguous is the word "some" as the sign of particularity. Some say that it means "anything from one to all but one", while others maintain that sometimes it may mean "all also", since it leaves the question of all an open one. What is peculiar about "some" is that it is indefinite in its reference, and that in two ways: (i) first, it may or may not include "all", and (ii) secondly, even when it means "a few but not all", we do not know which few it refers to.

We will not discuss the diverse opinions about the matter, but will rest content with offering our own, which follows from our doctrine of judgment. *Prima facie*, there is a distinction between particular and general judgments. The former may be formed independently, but the latter are always based on inference. Moreover, while the former contain simple references, the latter assert implicative relations among references. All particular judgments are, in our terminology, *simple*, while all general judgments are *complex*. Thus the categorical form in which the general judgment is often put belies its true nature, which is implicative or "hypothetical".

A simple judgment may be *unitary* or *composite*. The singular judgment is a unitary simple judgment, while the particular judgment belongs to its composite variety. The composite form of the simple judgment includes the so-called universal judgment which referes to a limited totality, and those particular judgments which refer to a definite "some". There is no logical distinction between these two kinds of judgment, but only a grammatical one. Johnson is wrong in calling the former the results of "summary induction", just as the Scholastic logicians incorrectly designated the process as "perfect induction" because of a wrong conception of "perfection" in regard to induction. (*For Johnson, cf. his "Logic", Pt. II, pp. 197 ff*). Summation is no induction, or inference at all. Where the particular judgment refers to an indefinite "some", it is not a simple judgment, but a complex judgment of the disjunctive variety, "some" meaning "either these, or those". An indefinite singular judgment belongs to this group, because it refers to "either this or that".—This redistribution of the territories of the different judgments will, we trust, go a long way in removing the confusion caused by misleading grammatical forms. The very vagueness of meaning in the word "some", useful though in practical life, has to be got rid of before any intelligible distinction can be drawn between general and particular judgments. Different shades of meaning attaching to the word "some" we have sought to clarify, and have allocated to different groups the so-called particular judgments sailing under a common banner.

The general judgment is not simple or categorical, but belongs to the conjunctive group of implicative judgments. In a simple judgment we are directly in contact with existents; but the objects to which a general judgment refers, being indefinite and unlimited in number, cannot obviously function in the above manner. It is not a mere accident that the so-called perfect induction has been regarded as the best form of induction, nor is it a mere caprice of Mill's to have declared Syllogism infected with *petitio principii*. Once you regard the general judgment as of the categorical form, the way is cleared for classing it with collective judgments (which are, in our scheme, the composite judgments of the simple type). Enumeration comes to be conceived as the essential element, and so where the enumeration is complete, the conclusion of an induction is regarded as perfect, free from all risks of error. Hence the interests of both induction proper as also of syllogism require that the general judgment be viewed in its proper light.

4. It may be asked: "If the general judgment is reduced to a hypothetical judgment, what becomes of the syllogism which has all its constituent judgments of the categorical form?" The question is quite pertinent and of great importance. Our reply is as follows. According to Aristotle, the subject of a judgment is substantival and the predicate is adjectival. According to the Law of Identity the same term cannot have two different meanings in the same context and thus in the same argument. In the second and third figures of syllogism, either the subject or the predicate undergoes a change of position and thus a change in meaning. Hence these figures are imperfect; and the fourth figure, because of a total reversal of meaning, is not taken into consideration. The arguments or "moods" in the imperfect figures must be shown to be equivalents of "moods" in the first figure before they can be accepted as valid. In other words, the first figure is the only perfect figure where there is no change of meaning in the terms, and this figure, therefore, typifies the syllogistic mode of inference. Now, all the moods of this figure can be easily put in the forms of "hypothetical reasoning" which can thus be regarded as the proper form for syllogism.

This suggestion is not to be rejected off-hand simply because it is so strangely novel. For, if we are in earnest about the importance of syllogism, we must show that it is free from the fallacy of *petitio principii*, which many thinkers besides Mill have detected in it. This fallacy is committed when the premises of an argument cannot be known or established without knowing the conclusion. Now, if the general judgment which every syllogism requires refers to a limited totality all the members of which have been separately examined, then the members referred to in the conclusion will also have been investigated, and the syllogism will be a *petitio principii*. When, however, the general judgment refers to an unlimited number of instances, those contemplated in the conclusion may not have been observed, and thus there would be no fallacy of circular argument. But the truth of the conclusion depends on that of the premises, and requires that the latter must be true as well. There is no difficulty in testing the truth of a particular judgment which refers to a limited number of cases, and thus the all-important factor in the situation is the general premise which deals with countless individuals.

Such a judgment cannot, obviously, be a simple assertion, whether unitary or composite, and it is found on reflection to be a complex judgment of the conjunctive type. The implicative relation asserted in such a judgment refers, at times, to a causal relation among existents, and it is the business of methodology to find out the exact manner in which such a relation is discovered in science and everyday life. Where the implicative relation refers to subsistents or abstractions, the truth of the judgment concerned can be tested by the formal Laws of Thought alone. Just now we are not concerned with the details of inference; and it is sufficient to observe that the recognition of the implicative character of general judgments would not only save syllogism from the stigma of *petitio principii*, but also avoid many complex and mechanical details in syllogistic doctrine. It is time we rose to the occasion and cleared the field of logic of all obstacles offered by harmful undergrowth. The science that is tethered to the apron-strings of its founder is doomed for ever.

5. General judgments are really implicative judgments of the conjunctive type. Conjunctive judgments, as distinguished from disjunctive, are positive in that they always assert an implicative relation between propositions. It may be objected here that some of the general judgments are negative, and cannot therefore be reduced to conjunctive judgments which are admittedly positive.

There would be a prompt answer to this question if we admitted qualitative differences among conjunctive judgments themselves. Thus some logicians hold that the hypothetical judgment can be negative as well as affirmative and that its quality depends on that of the consequent. But such a view is untenable for more than one reason. It suggests that the hypothetical is a combination of two judgments each of which has its distinctive quality, a suggestion palpably erroenous. Besides, it implies that the relation between the antecedent and the consequent is one of dependence, *or lack of dependence*, which again is grossly incorrect. The hypothetical, or rather, the conjunctive is not the combination of two distinct judgments but is a single judgment or assertion, and, in every case, it asserts an implicative relation between its structural components which are propositions, not judgments.

Thus the judgment "No man is perfect" is an implicative assertion and is equivalent to—"If anything is a man, it is not perfect" and asserts an implicative relation between "anything being a man" and "anything not being perfect". The truth of the judgment will depend on there being a causal relation between the nature of man and being other than perfect. It would be wholly wrong to suppose that the above judgment states that here is no implication between its structural components. We cannot also say that it asserts a "negative implication", which, we have seen earlier, is the relation asserted by a disjunctive judgment. The conjunctive judgment always asserts a positive implication, whether the constituent propositions are all of them positive or not.

Hence we conclude that both the affirmative and negative general judgments are really complex judgments of the conjunctive type. Since the essential point in regard to them is the assertion of an implicative relation, it is unnecessary to place them under two separate heads within the group of conjunctive judgments. If, however, any one desired a distinction he could easily provide for it in his table of judgments. But the need of the hour is the clear recognition of the implicative character of general judgments, for want of which logical doctrine has been sadly mutilated for pretty long years.

6. A distinction should, however, be made between particular and general judgments of the conjunctive type. Though, in every case, the conjunctive judgment asserts an implication, the relation may hold between propositions which refer to individual things, or between those that refer to classes of things. Thus, I can say, "If John works hard, he will do well in the coming examination", or, "If any student works hard, he will do well in examinations". In either case I assert an implication, but while the objective basis of the first is a single causal relation—a causal relation between unique events, the objective basis of the second is a general causal relation—a causal relation between two *kinds* of events.

Without entering here into a detailed discussion of causation, we will pass on simply by adding that the general judgment is a conjunctive judgment of the latter kind. This makes it clear that the distinction between general and particular judgments cannot be *identified* with that between simple and complex judgments. In other words, though all general judgments are implicative and, in particular, conjunctive, all conjunctive judgments are not general, but may be particular as well.

7. No distinction of general and particular can, however, be made among disjunctive judgments. This may seem unconvincing at

first. Both the conjunctive and the disjunctive judgment assert an implication between their structural components, and if the conjunctive can be general as well as particular, what is peculiar to the disjunctive judgment that makes it essentially particular?

We have already pointed out that the four forms of judgment discussed in the previous chapters are equally fundamental, so that no two of them are exactly alike. Both affirmation and negation are simple assertions but are not wholly on a par with one another. The conjunctive and the disjunctive judgments are marked off from the simple type inasmuch as both of them have a complex structural aspect which is implicative in character. But the implicative relation in one is different from that in the other. While the conjunctive judgment asserts a positive implication, the disjunctive asserts a relation among its constituent propositions, which has been designated by us as negative implication; but these two relations are not exactly the opposites of one another. Positive implication has for its objective counterpart a relation of ground-and-consequence in the case of abstractions, and a causal relation in the case of concrete facts or existents. The objective basis for negative implication is the relation between a determinable and its determinants which are limited in number. The correctness of a disjunctive judgment depends on the complete enumeration of the different determinants. Obviously such a judgment can have no objective basis in a causal or a consequential relation, and cannot therefore be general in the true sense of the term.

8. Let us clarify this somewhat obscure observation in the light of concrete examples. "Men are either civilised or uncivilised" seems to be an example of a general disjunctive judgment. But we are here in possession of no sequential or consequential relation. The example may be taken as the result of a dichotomy which exhausts the determinants of a determinable by taking them as contradictories, but does not assert a positive implication between two propositions. It simply means—"some men are civilised and the rest are uncivilised", which is a combination of two particular judgments. If, on the contrary, the judgment has been formed after an investigation of each and every man—an impracticable procedure, then also, it deals with a limited totality and thus lacks the essence of a general judgment.

It may be objected that we have not construed properly the nature of the above judgment: what it means it this; "If anything is a man, then it is either civilised or uncivilised". But even then its general character is not brought out. The relation between the antecedent and the consequent is not one of implication. "Every triangle is either equilateral or isosceles or scalene" may be taken as equivalent to "If anything is a triangle, then it is either equilateral or isosceles or scalene". But the latter, just like the former, is based on a complete enumeration of the sub-classes and is thus not essentially general. "Either the position or the velocity of an electron at any moment can be adequately determined, but not both"—so goes the Principle of Indeterminacy, which is apparently a scientific *generalisation* : are we to declare that it is not a general judgment at all? Yes, and precisely for the same reason. The statement sums up the results of investigation carried on thus far and is thus a particular, not a general, judgment.

9. None the less, it may be contended that a general judgment is not always true, but may be false as well, and that the absence of an implicative relation does not therefore affect its character as a general judgment. The logical character of a judgment, it may be said, has nothing to do with its genesis, or with its truth. When we say "All swans are white", are we not making a general judgment even though it is based on our limited observation, our uncontradicted experience concerning a number of swans? If, instead, we had said "All the swans that we have seen are white", that would indeed be a particular judgment, but not so the other judgment which is clearly general.

The objection has great force and must be met if our thesis is to be accepted as correct. The answer we give is rather novel and its acceptance will necessitate a good deal of modification in logical doctrine. *All* generalisation, we maintain, depends on the discovery of a sequential or a consequential relation (as the case may be) ; and where there is no such discovery, the so-called generalisation that we may make is either mere *summation* of observed results, or a mere *hypothesis* or supposition masquerading under the name of a general judgment. We must never forget that generalisation is a form of inference made up of judgments; it is neither summing up or enumeration, nor the framing of a hypothesis which is no assertion at all.

Much confusion in logic is due to the use of the name "hypothetical judgment" for a conjunctive judgment which is essentially implicative in character. A hypothesis is no judgment, hypothetical or otherwise; it is only when we ignore its character as a hypothesis that we mistake it for a judgment. A hypothesis is the mere entertainment of a proposition without asserting it, or a proposition so entertained; it should by no means be mistaken for a judgment which makes a definite assertion, whether correct or incorrect. Any genuine general judgment asserts an implicative relation. Where there is no such relation, the judgment in question is either particular, unitary or composite, or it is not a judgment proper but a mere supposition (or hypothesis) in which there is no assertion at all.

10. One other possible objection to the view of general judgments advocated above may be considered here. It may be contended that the reduction of the categorical general judgment to the implicative form ignores the existential reference contained in the former. The judgment "All men are mortal", it may be said, not only makes an assertion about all men but also suggests that men *exist*, whereas the implicative judgment—"If anything is a man, then it is mortal"—contains no such suggestion. The latter merely asserts an implicative relation between two propositions which do not suggest whether any man exists at all. Hence the reduction of the categorical judgment to the implicative form alters the meaning of the original.

Now, whatever the validity of this objection to the view of those who regard propositions as self-subsistent entities, it has no relevance to the theory of judgment advocated by us. For we have maintained all along that the proposition is no transcendent entity but an inalienable feature of our actual, concrete judgments. It is but another name for the objective reference contained in every judgment. The implicative relation which an implicative judgment asserts is another propositional reference. The referent is sometimes a relation of ground and consequence, and sometimes a causal relation. The former holds between abstractions, and the latter between concrete facts or existents. Logical and mathematical judgments deal with abstractions or subsistents, while those of everyday life and of other sciences are concerned with concrete facts or existents. The former, again, are ultimately based on the latter and thus at bottom all judgments are existential. But this does not mean that every judgment at it is made is directly concerned with existents. In that case we could not explain such instances as "All centaurs are mythical beasts" or "No golden mountains exist". All this has been shown in detail in the previous chapters. Here we need only point out that the legitimate exisential reference contained in the judgment "All men are mortal" is provided for by us. The implication that is asserted refers to a causal relation among existents, and thus the existential reference is not lost sight of. If, however, we want to say that *all men exist now* and are mortal, our explanation must of course be discounted. But is not the critic himself maintaining an absurd position? *All* men *do not* exist now, and the judgment in question does not assert existence. Moreover, it could assert existence of all men if, and only if, they formed a limited totality, and in that case the judgment would cease to be general. It may still be contended that a categorical judgment may refer to a class of unlimited membership, even though we cannot verify it. But this contention forgets that while an *unverified* judgment is a judgment proper, a so-called judgment that is *inherently unverifiable* is a mere supposition. The categorical judgment that is verifiable is a simple judgment whether unitary or composite.

We have thus admitted, and tried to explain, the distinction between general and particular judgments, though we refuse to regard this distinction as equally fundamental with that between affirmation and negation or between conjunctive and disjunctive judgments. The traditional logic bungles over it, because it confuses this distinction with that between universal and particular judgments. The former is of much importance in connexion with inference; but the latter is trivial because purely formal, and is even invalid from our point of view, centring as it does on the subject term as a distinct item in the judgment or proposition.

11. Traditional logicians have divided judgments according to another principle, viz., modality, into necessary, assertory and problematic. Judgments of the form "A must be B", "A cannot be B" are necessary or apodeictic; of the form "A is B", "A is not B" are assertoric; and of the form "A may be B", "A may not be B" are problematic. These distinctions are also expressed by adverbs: "A necessarily, actually, possibly is (or is not) B".

These two formulations bring out the difference of view among logicians regarding the nature of modal distinctions. Some say that distinctions of modality pertain to the copula which stands for the attitude of belief or assertion. Hence modal distinctions point to the degree of certainty or conviction with which the predication or assertion is made. Others, however, maintain that modal distinctions do not belong to the copula but to the predicate, and they indicate different kinds of relations that obtain among the objective counterparts of the subject and the predicate. In other words, these thinkers regard modal distinctions as ontological in character. We have to consider now whether either view is tenable and to what extent each can explain the logical distinctions intended by the division in question.

12. According to the psychological interpretation, modality means quantitative variation among beliefs,—a differentiation based presumably on the intensity of holding a belief or the act of believing. Degrees of intensity are surely a legion, but three broad cross-sections are selected as conspicuously different from one another. These are certainty and probability—lying at opposite poles, and ordinary belief which comes midway between them. Thus when I say "A must be B", I am absolutely certain—I have not the least doubt—that A is B: I am thoroughly convinced of the truth of the assertion that A is B. When, on the contrary, I declare "A is B", I make a plain assertion: I do believe that A is B, but do not go so far as to say that the assertion cannot be false, which I imply in the case of a necessary judgment. My conviction, therefore, in the present case that A is B is less intense than in the previous case. Again, when I say that "A may be B" I do not quite believe that A is B: I think it likely that A is B, but my mind cannot come to a decision on this point, and so my statement falls short of a definite assertion. These psychological distinctions of certainty, ordinary belief and uncertainty are embodied in the Kantian division of judgments into the apodeictic, the assertoric and the problematic.

But the problematic judgment in the above sense is no judgment at all. If the mind oscillates between belief and doubt, the asserting attitude is clearly absent. This is not to suggest that belief may not be preceded by doubt, or supposal, or questioning, or any other attitude for the matter of that; but unless and until these states have given place to belief we have no judgment at all. The problematic "judgment" has on the epistemic side an attitude of doubt and thus lacks an essential mark of judgment.

It will not do to say that the state of doubt alternately gives place to belief. So long as there is no belief, there is no judgment; and as soon as we have reached the stage of belief, we have a judgment, pure and simple, which cannot be said to be problematic in any sense. The judgment or belief may have been preceded by the consideration of a problem, as the pragmatist suggests. (*Cf. Dewey, "Logic", pp. 120 ff*). But so long as there is no solution there is no judgment, and directly we have reached a solution we have a judgment which is not problematic in any intelligible sense. Thus there seems to be no hope for the problematic judgment if it is the expression of a state of doubt or uncertainty of the experient regarding the nature of the object.

Now let us turn to the apodeictic judgment. Here we are said to have a state of absolute conviction regarding the nature of the object. But how is this state of absolute conviction distinguished from ordinary belief? Does it mean that we have no doubt as to the character of the referent? If so, it is not different from ordinary belief which is involved in the so-called assertoric judgments. Perhaps the distinction is somewhat like this: while making an apodeictic judgment we feel that the opposite or contradictory of the judgment is unthinkable, and there is no such feeling in the acceptance of an assertoric judgment. But what is the precise nature of this feeling that characterises an apodeictic judgment? If it is held to signify our reflection upon the nature of the judgment we are making at the very moment, the existence of such an attitude may be regarded as highly questionable. If, on the contrary, it is suggested that the apodeictic (as well as the problematic) judgment is complex, reflecting as it does on a previous judgment, the ground is shifted altogether, and we arrive at a new theory that may be said to regard modal distinctions as logical, not psychological or ontological.

13. On such a theory modal distinctions relate to the complexity of structure of the judgmental attitude. While an assertory judgment is primary referring as it does to an objective situation, both the apodeictic and problematic judgments are secondary since they refer directly to other judgments. According to this view, the judgment "A must be B" is equivalent to "The judgment 'A is B' is certainly true", and "A may be B" is equivalent to "The judgment 'A is B' is probably true". But apart from the fact that an apodeictic, or a problematic judgment need not reflect upon the nature of another judgment, the above view throws the difficulty one step backward. For how are we to distinguish a judgment which is necessarily true from another which is merely, or probably, true?

It may be said that a judgment which is probably true is an *uncertified* judgment, while that which is merely or certainly true is *certified*. (*Cf. Johnson, "Logic", p. 55*). But what does certification mean precisely? Johnson implies that certification is an affair of personal testing, and if I am satisfied that a judgment is true, it is certified for me, and if I am not satisfied, it is uncertified. But such a distinction cannot be regarded as logical. Moreover, there is a further distinction among certified judgments. Those judgments which can be certified "by pure thought or reason" are "formally certified", while those that require the help of experience are "experientially certified". What Johnson means is probably this: If a judgment can be proved by means of the purely formal laws of thought, it is formally certified; if, however, the reasoning employs a single premise taken from experience, the judgment in question is experientially certified. This cumbrous analysis could be more straightforward if it identified the formally certified with the analytic and the experientially certified with the synthetic judgment. True, the terms 'analytic' and 'synthetic' are themselves ambiguous; but we could say that the formally certified are based on the Laws of Thought alone, while the experientially certified are not so.

But in any case, a better distinction among certified judgments is that some of them are demonstrated, while others are verified. The distinction between verifiable and demonstrable judgments is clearer and more important than that between the formally and the experientially certified. Moreover, it corresponds more to that between necessary and assertory judgments than the one suggested by Johnson. The necessary judgment tells us that a certain judgment has been demonstrated or is demonstrable; the assertory judgment as a modal one is that which tells us that a particular judgment is verified or verifiable; while a problematic judgment informs us that a certain judgment is thus far unverified, though essentially verifiable in character. According to this interpretation, a modal judgment is a statement regarding the method of testing the truth of a particular judgment and it also informs us whether it has been tested or not.

But is the interpretation acceptable? It seems clear that all statements containing "must" and "may" cannot be explained in this manner. A judgment containing "must" may be verifiable but not demonstrable, and sometimes such a statement expresses a doubt. Again, demonstrable judgments are often put in the form of assertory judgments. And a statement which is really the expression of a doubt may be put in the form of an assertory or an apodeictic judgment. These are indeed questions of linguistic inaccuracy and may be solved by a consistent terminology in logic. But the more important question is: Are modal judgments always "secondary" in the sense that they are passed upon other judgments which are primary? The answer must be in the negative, though the interpretation is highly plausible in the case of problematic judgments.

But the fact is, whenever people use the words "must" and "may" in their statements, they want to express their conviction or uncertainty, and the interpretation, however ingenious, is therefore a mis-statement of the actual situation. The modal judgments do contain a primary reference to the mental state of the speaker, and thus the psychological distinctions cannot possibly be reduced merely to a sort of methodological differences regarding the testing of judgments. Those who recognise the psychological distinctions but are unable to admit them in logic go to the other extreme by trying to exhibit modal distinctions as grounded in the nature of the objects themselves.

14. Let us, then, consider the view that regards modality as a purely objective distinction. On this view, a necessary judgment refers to a necessary relation among objects, an assertory judgment to a contingent relation, and the problematic to a possible relation among things. A necessary relation is that which could not have been otherwise, a contingent relation is one which happens as a matter of fact but could conceivably have been different, and a possible relation is that which sometimes obtains and sometimes does not obtain among things.

The necessary relation in the above sense is a consequential relation that holds among abstractions only. The doctrine of "internal relations" contends that it obtains among empirical things as well. The contention hinges on the view of causation as a necessary relation; but we hold with Hume that the alleged necessity in causation is inferential only, and should not be confused with a consequential relation. The cause, in other words, is not a ground, though it may be a "because". It is the confusion of the consequential with the implicative relation that has led people to believe that the causal relation which justifies inference is also consequential and necessary. Hence only the relations among abstractions can be necessary, but not those that obtain among existents. A necessary relation admits of demonstration, a contingent relation of verification, while a possible relation is that which is not actual but may be actualised in the near or remote future.

But this interpretation is also equally untenable for more than one reason. All judgments of the "must" form do not refer to necessary relations, nor do those of the "is" form refer always to contingent ones. And the view is highly objectionable in the case of problematic judgments. If a problematic judgment refers to the present or the past (e.g., "He may be ready now", "He may have finished the work") the objective relation is or was actual and such a judgment would not differ from an assertory judgment,—which does not seem convincing. If, however, the judgment in question refers to the future, it can be different from an assertory judgment only if it is supposed that the future is undetermined in the sense that the causal law does not operate in respect of future events. But such an arbitrary limitation of the scope of causality is quite objectionable. Hence the interpretation of modal distinctions as ontological differences alone cannot be upheld.

15. Thus we are led to the other possible alternative, viz., that the modal distinctions are at once psychological and ontological. If it is the case that there are epistemic and structural differences among judgments that can be regarded as modal, we are bound to accept them as genuine distinctions among judgmental forms. Let us see whether it is so.

When we make an apodeictic judgment we feel that its opposite is unthinkable: if we say "A must be B", we are convinced that A cannot but be B. Obviously, our mental attitude is different from the case when we say "A is B". Hence the judgment "A must be B" cannot be a simple assertion. It asserts a necessary relation and can be nothing but implicative of the consequential type. In other words, it is equivalent to "If A, then B", where both A and B are abstractions. Thus the objective counterpart of the implication that is asserted is a relation of ground and consequence, and never a causal relation or any other. Admittedly, all judgments of the "must" form are not of this character. But that only shows that though these judgments express absolute conviction on the part of the speaker, such conviction is not warranted by facts. Only when we deal with abstractions are we justified in using the "must" form. Thus, "The three angles of a triangle must be equal to two right angles" is equivalent to "If anything is a triangle, then its three angles must be equal to two right angles": "5 multiplied by 3 must be 15" is equivalent to "If 5 is multiplied by 3, the product must be 15", and so on. On the contrary, "If he works hard, he must succeed" expresses perfect conviction on the part of the speaker but is not warranted by the nature of the case. The "must" form is not logically admissible in cases other than those that deal with abstractions.

An assertoric judgment is really any judgment, because every judgment asserts a propositional reference. Some judgments, we have seen, are simple assertions, while others are complex or implicative. Implicative judgments may be subsistential or existential, i.e. consequential or sequential. The existential judgments may be regarded as assertoric, along with simple assertions, in order to mark off both of them from the consequential ones which are necessary. Assertoric judgments thus assert a simple propositional reference to existents, or an implication that refers to a causal or sequential relation among existents. The epistemic aspect of such judgments does not involve absolute conviction, but is simply an act of belief whether preceded by a supposition or not. The epistemic aspect of necessary judgments, on the contrary, contains a feeling of absolute certainty and is, moreover, always preceded by a state of supposal, inasmuch as such judgments are always implicative in character.

The "problematic judgment", if the name is used to signify a state of doubt or surmise, is no judgment at all. If any mental process can lay claim to the title of judgment, it must involve belief, though the state of belief may have been preceded by a mental state of a different character. But what logicians call a problematic judgment is supposed to fall short of belief proper, and thus we find no reason to admit a third group of judgments alongside of the necessary and the assertoric. Joseph points out that "modal" judgments, as distinguished from what he calls "pure", involve reflection. But while both the necessary and the assertoric "involve judgment", the problematic does not. "He who judges that straight lines making equal angles with the same straight line cannot meet, judges also that they do not; he who judges that Mars may be inhabited does not judge that it is. It involves reflection, therefore, like the apodeictic judgment; but reflection upon something suggested, as it were, in an attempt to judge, which we cannot find sufficient grounds either to affirm or to deny. It is an expression of uncertainty". (*Joseph, op. cit., p. 197*). None the less, this expression of uncertainty, which is neither affirmation nor denial, is regarded by him as an "assertion" of facts and therefore judgmental in character.

The reason for holding such a strange view is that Joseph confuses suggestion or reference to reality with the acceptance of a suggestion, the assertion of a reference. All mental states are referential and, as Joseph says, they do not take place "*in vacuo*"; but all of them, even when cognitive, are not judgmental in character. It is because logicians have paid little or no attention to non-judgmental cognitive attitudes like questioning, supposal, doubt etc. that they admit a third class of judgments in addition to the necessary and the assertoric. If sufficient attention were paid to the epistemic aspect of judgments, we could not have an alleged class of judgments which are expressions of uncertainty or doubt.

16. It may be contended that the problematic judgment need not be regarded as an expression of doubt, but as the expression of our belief of a real indetermination in the nature of things. Probability, we may be told, is not subjective, but is an estimate of the chance of certain events occurring or not. But if chance is taken in the sense of *ignorance* as to the causal connexions among existents, a judgment expressing the chance or probability of the occurrence of a thing would not be problematic but assertoric. If, however, chance is taken not in an epistemological but in an ontological sense, it is equivalent to a denial of causal relations among things. The Principle of Indeterminacy is supposed to point to a real indetermination in the happenings of nature. But apart from the fact that eminent scientists like Einstein and Max Planck tend to regard the Principle as methodological, it applies only to the microscopic world of electrons and not to the world of our every-day experience. The law of causality rules over this world, its dominance over the mental sphere having been strongly testified to by Freud and his followers.

Anyway, one thing is clear. If it turns out in the light of further investigations that indetermination is really objective and rules over the whole world, then the implicative judgments of the sequential type will have to go. And we shall have a class of judgments which will assert an objective uncertainty, or rather, indetermination and such judgments would be entitled to the name of the problematic. But even in that case there would be no virtual distinction on the epistemic side between assertoric and problematic judgments, as both would involve belief in the reality of the propositional reference asserted by them. Hence even in that case, we shall not have *three* fundamentally different types of judgment with both epistemic and structural distinctions.

17. Thus, on our view, only the necessary and the assertoric judgments can be accepted as instances of genuine judgment. The

so-called problematic judgment is reducible either to the simple, or to the complex variety of assertoric judgments. And even this distinction between necessary and assertoric judgments is of secondary importance, all the necessary judgments being subsistential judgments of the implicative type.

18. It is with extreme reluctance that we take up for consideration the traditional distinction between "analytic" and "synthetic" judgments. For, first of all, such a distinction becomes meaningless in our theory which regards the subject-predicate analysis of judgments as superficial and invalid. Moreover, there is too much confusion as to the exact significance of the alleged distinction, some viewing it as linguistic, others as psychological, and still others as logical or epistemological.

19. Let us first consider the distinction, from the linguistic point of view, into Verbal and Real propositions. Mill takes it as a distinction between verbal and trans-verbal judgments. The assertion of a linguistic judgment or proposition, he says, is solely dependent on our acquaintance with the meanings of words and their modes of combination. A verbal proposition is one "which asserts of a thing under a particular name only what is asserted of it in the fact of calling it by that name; and which therefore either gives no information, or gives respecting the name, not the thing". Real propositions, on the other hand, "predicate of a thing some fact not involved in the signification of the name by which the proposition speaks of it; some attribute not connoted by that name". (*"A System of Logic"*, *Bk. I*, *Chap. V*).

Verbal propositions, therefore, are purely linguistic: they do not refer to trans-verbal objects. According to Carnap and other logical positivists, *all* propositions are of this kind, while Ayer regards only "philosophical propositions" as belonging to this group; for such propositions "do not describe the behaviour of physical, or even mental, objects; they express definitions, or the formal consequences of definitions". (*"Language, Truth and Logic"*, *p. 62*).

We have seen, however, that the function of most of our judgments is to refer to trans-verbal objects, though some judgments do refer to words as such. Hence we can recognise the distinction between verbal and *non-verbal* judgments. But such a distinction is not equivalent to that between verbal and *real* propositions inasmuch as the verbal judgments are as real or genuine as the non-verbal ones. The verbal judgments also give us information regarding the nature of objects; only the objects here are not trans-verbal existents but words themselves. Words do not form a transcendent group of entities cut off from the rest of the world: they, too, are physical existents of a special kind, and information about them is not verbal but real or genuine knowledge of things. All definitions are judgments of this type and they have great value in every science. The distinction, therefore, between verbal and non-verbal or factual judgments can be admitted. This has an important bearing on the distinction between existential and subsistential judgments.

20. This distinction, however, is confused with another introduced by Kant, viz., that between analytic and synthetic judgments. Mill himself in his discussion of the distinction between verbal and non-verbal judgments treats it as equivalent to the Kantian distinction. According to Kant, analytic judgments "add nothing through the predicate to the concept of the subject, but merely break it up into those constituent concepts that have all along been thought in it, although confusedly". Synthetic judgments, however, "add to the concept of the subject a predicate which has not been in any wise thought in it, and which no analysis could possibly extract from it". (*"The Critique of Pure Reason", 2nd Edition Introduction*).

The example of an analytic judgment given by Kant is, "All bodies are extended": while as instances of the synthetic he cites, "All bodies are heavy" and "7+5=12". A mere analysis of the concept of "body" reveals that it is extended: the concept of "extendedness" is involved in that of "body". But it is quite otherwise with a synthetic judgment. The predicate "heavy" in the above judgment gives us an information which no analysis of the subject could possibly reveal. An analytic judgment can be established without turning to experience for verification: for here we rely solely on the Law of Non-contradiction, and the denial of such a judgment stultifies itself. Hence such a judgment is *a priori*, logically prior to, i.e. independent of, experience. An ordinary synthetic judgment, however, is *a posteriori*, derived as it is from experience. Here a mere reliance on the Law of Non-contradiction is not enough, and hence such a judgment is particular and contingent.

There is, however, another class of judgments which combine the good qualities of both the varieties mentioned above. They are both synthetic (really informative) and *a priori* (universal and necessary). Though they refer to experience, they do not depend on it. Their truth is guaranteed by the forms of sensibility and the categories of the understanding. These, the synthetic judgments *a priori*, define for Kant the province of theory of knowledge which is philosophy proper.

But he came in the end to recognise that all judgments proper are both synthetic and *a priori* in that they refer to experience and involve the forms and categories (*Cf. Morris, "Idealistic Logic"*). What he calls analytic judgments are veiled tautologies and can be regarded as judgments only when a surreptitious reference to trans-subjective objects has been fathered on them. Hence the so-called analytic judgments become judgments proper only when they have ceased to be analytic. Thus we are left only with the synthetic judgmensts which indeed are judgments proper.

21. Some others have conceived the distinction between analytic and synthetic judgments as psychological in character. "A judgment", says Bradley, "is not fixed as 'synthetic' or 'analytic': its character varies with the knowledge possessed by various persons and at different times........We may even say that a synthetic judgment, so soon as it is made, is at once analytic". (*"Logic", Vol. 1, p. 185*). A judgment is analytic to a teacher who is teaching it to his student, for whom it is synthetic. The teacher already knows what he is imparting to the pupil and for him the judgment is analytic: but to the pupil who learns it for the first time it is new information and thus a synthetic judgment. On the same ground what is synthetic to a person at one moment is analytic at the next moment, and to God who is omniscient all judgments are analytic.

But this distinction is based on a misunderstanding. It is commonly said that a judgment is the unit of knowledge which means new information about things. Now, if a man makes the same judgment twice, the second instance of the judgment is a mere repetition of the first and thus contains no new information. Hence the judgment that was once synthetic as containing new information ceases to be synthetic when the information loses its novel character. But the fact is, no judgment can be repeated twice. Every judgment as a concrete mental process or event occurs only once in the life-history of the universe. To suppose that the same judgment can be made twice is due to a confusion between judgment and propositional reference. A proposition, though an aspect of a judgmental act, can be abstracted from it and taken to be part of a different judgment. Unless it were possible to do so, no two persons could think of or know the same object in a similar way. The transmission of information is possible because of this sharable character of propositions symbolised by words. It would, however, be wrong to suppose that a concrete judgmental act can be bodily transferred from one mind to another, or even occur in the same mind more than once.

The relation between judgment and proposition has already been explained in detail and needs no further comment here. But it is pertinent to remark that the confusion of the judgment with its propositional aspect has led people to fancy that the same judgment can be different things to different persons or to the same person at different moments. It is therefore wholly wrong to say that the same judgment can be now synthetic and now analytic. This is but one consequence among many others of a purely formal view of judgment to the utter neglect of its existential i.e. epistemic character. Thus the "psychological" distinction between analytic and synthetic judgments entirely misses its mark and may be left out of further consideration.

22. It is interesting to note that Bradley, for whom "synthetic judgments are analytic in the making" in the sense indicated above, says elsewhere in effect that analytic judgments are synthetic in the making. An analytic judgment is one in which "we simply analyse the given", as e.g., "I have a toothache", "There is a wolf", "That bough is broken" : in these judgments of sense I "make an assertion about some portion of it". Synthetic judgments of sense, on the contrary, "state either some fact of time or space, or again some quality of the matter given, which I do not here and now directly perceive". "This road leads to London", "Yesterday it rained", "Tomorrow there will be full moon" are examples of this type. "They are synthetic because they extend the given through an ideal construction, and they all.......involve an inference". The analytic judgments of sense, however, are all false, because they represent a part of reality "as if it were the whole".

This is, of course, the official position of Bradley as an absolute idealist. Every fact is internally related with other facts, all its relations forming part of its essence. Hence no analytic judgment of sense is true, since it claims to represent an object as if it were wholly shut up within itself. Its only hope lies in transcending the given, and as soon as it has done so, it has changed its colour and become a synthetic judgment. A synthetic judgment, to the extent that it goes beyond the given, acquires the title to a degree of truth. But by going beyond the given it ceases to be categorical, and becomes conditioned and "in the end" conditional. It is partly true precisely because it is conditional, thereby revealing its partial character and consequent dependence on the all-inclusive system of judgments. The analytic judgment is false because it claims to be categorical and self-sufficient.

But Bradley is "not urging that the analytic judgment is in no sense true. I am saying that, if you take it as asserting the existence of its content as given fact, your procedure is unwarranted". "The analytic judgment is not true *per se*. It cannot stand by itself. Asserting, as it does, of the particular presentation, it must always suppose a further content, which falls outside that fraction it affirms. What it says is true, if true at all, because of something else........It is not true except under that condition. So we have a judgment which is really conditional, and which is false if you take it as categorical. To make it both categorical and true, you must get the condition inside the judgment........And this is impossible".

Hence we are left with synthetic judgments alone, which transcend the given and are admittedly conditional and thus partly true.— But all this is a foregone conclusion, and the distinction drawn with so much show of explanation is wholly gratuitous and superficial. If the essence of a synthetic judgment lies in the fact of its transcending the given, the synthetic judgment is nothing but judgment as such, because every judgment contains an ideal element and thus transcends the given. The recognition of this must have led Bosanquet to hold that all judgments are at once analytic and synthetic, a view accepted by Bradley also in the end. The former goes even to declare that "not only is every judgment both analytic and synthetic but it is analytic only so far as it is synthetic". (*"Logic", Vol. I, p. 96*). For analysis and synthesis are but two aspects of the same judgmental act, occurring at the same time. A whole is a whole precisely because it is a system of its parts, neither of which can be noticed separately at successive moments in the total act of apprehension. Thus the distinction between analytic and synthetic judgments evaporates away.

23. We have ourselves accepted the view that every judgment is at once analytical and synthetical. The object or referent is always

partly given and partly "taken", and thus both analysis and synthesis are required to apprehend the nature of any referent. It would, however, be wrong to suppose that these two processes interfere with the nature of the object. The terms might suggest that we in judgment cut to pieces, or put together, the object of our thought. But our whole argument has been a protest against this subjectivistic bias which needs no special consideration here.

CHAPTER XI

JUDGMENTS OF VALUE

1. The widespread interest in the problem of values is comparatively recent in the field of philosophy. There never was a time when so many thinkers took so much interest in values in general as a distinctive subject for study. Indeed the name *axiology*, which means the science of values, is quite modern and has not yet found its place in philosophical textbooks, far less in general literature.

It is not our intention to give here a historical sketch of the diverse theories that have been offered for the explanation of the character of values. But we cannot help remarking that no acceptable theory has been offered thus far, and this for the astounding reason that the nature of the valuational *judgment* has not been grasped adequately. Few indeed have been able to extricate themselves from the superstition that value-judgments are on a par with what ordinarily go by the name of logical judgments. Some have pointed out that while a logical or factual judgment is *descriptive*, a value-judgment is *evaluative*. But this hardly amounts to a distinction unless the *secondary* character of the latter (in the sense to be indicated presently) is recognised with clearness.

Though philosophers speak of truth, beauty and goodness as three ultimate values, the distinction between judgments as logical and evaluative tends to place truth on a different level altogether. They also find it extremely difficult to prove the *objectivity* of values, not as pale, bloodless abstractions but as robust ideals clothed with the flesh and blood of reality. We will maintain that values, without a single exception, are at once subjective and objective, and further that the term "value" as a substantive is misleading in its suggestion of an entitative existence or subsistence. Truth regarded as a distinct entity descending on occasions upon our assertions is the offspring of a false abstraction, and the same is true of all other values, ultimate or derivative. Just as truth is the quality of a certain class of assertions, "validity" is the character of another, and it is only a misguided theory that seeks to locate value in an extra-mundane sphere, or even consider it an existent alongside of other existents, physical or mental. Contrariwise, the subjectivist theories regard value as a purely mental affair, a feeling or a taste with no counterpart in the trans-subjective world. We must dispose of these one-sided views before we set forth our own.

2. Axiological objectivism regards value-judgments as giving us a direct insight into the moral worth of voluntary actions and the beauty of beautiful objects. Objectivism in Ethics appears in the form of a Moral Sense Theory, or a theory of Practical Reason. The former holds that the moral value of an action is like the qualities of a physical thing, and just as the physical qualities are apprehended by the senses, the moral quality is intuited by the moral sense. The locus of moral values is a particular act in which the values are immanent. The rationalistic variety of objectivism finds the locus of value in a universal, i.e., not in particular actions but in certain types of action. Such a view in its most consistent form is found in Kant's doctrine of the Categorical Imperative.

But consistency is purchased here at the sacrifice of contents or materials, and the theory gives us only forms of moral laws, and hence an abstract morality. "Act on that maxim, and that maxim only, which thou canst at the same time will to become a universal 'law''. Value is that which formulates the commandment, the "moral law", the thing that ought to be. The will is that for which the commandment has validity. The good will is determined by the law, it is directed towards that. But it does not receive the commandment from a beyond. The will is autonomous; the categorical imperative is its own law and is recognised as such. "The metaphysical essence of the will is precisely this legislation". (*Cf. Hartmann, "Ethics", Vol. I, p. 156*). Hence the "ought" is necessarily determined by the will, and not *vice versa*. But since the self in its true being is a thing-in-itself, the moral law as the expression of its real nature is transcendental and the practical reason or moral consciousness is essentially a faculty of intuition. Hence it is that Hartmann traces this view to a realistic, and indeed to a naïvely realistic prejudice. (*op. cit., p. 163 footnote*).

3. No objectivism along with its concomitant intuitionism is acceptable in the face of the recognised facts of ethical blindness and relativity. A man may have "the conscience of an ass", and what he calls good others condemn as vicious. How is an intuitionist going

to show the superiority of his own intuition to that of the man with perverted tastes? The widely divergent character of moral ideas and precepts is almost proverbial. "The faults of Clapham", they say, "are chaste at Martaban". The same things are not regarded as good (or bad) east and west of Suez. Besides, moral ideas change from age to age. "The virtues of one age become the vices of the next"; "time makes ancient good uncouth". Even the moral judgments of people belonging to the same age and country and equally cultured are sharply in conflict with one another. What has the intuitionist to say to all this?

He may reply, as Hartmann does, that "values do not change, but our insight into them changes". Precisely, the "change" of insight is inexplicable on his theory. "The historical shifting of our gaze" is really a "trans-valuation", in Nietzsche's phrase, "of values", and not a mere re-orientation of them. If the sphere of transcendent values were "reflected" in our value-judgments, we could not be mistaken about their real nature. Here as elsewhere intuitionism fails to explain the nature of incorrect judgments. The very fallibility of judgments is proof positive against their full-fledged intuitional character.

Valuational intuitionism repeats the mistake of Plato who reduced universals in the end to particular existents, though laid up in a transcendent region above the sensible world. For it virtually resolves evaluative judgments into factual ones. All value-judgments contain an "ought", but the "ought" is never a reflex of the "is", a mere index to the self-existent "value". This value is really existence in a mystical sense, a transcendent fact tinged with emotion. The only difference between sensationistic intuitionism (or Moral Sense Theory) and its rationalistic variety (as typified in Hartmann) is that while the former regards value as a quality on a par with sensible qualities, the latter views it as a *substance* more or less akin to physical things. But a mere transformation of a quality into a substance does not take away the sting of objectivism, which in the end makes values a matter of tastes only.

This is recognised by the modern realists, and hence they regard values as subjective in status. For if all judgments put us in direct contact with reality, values as the objects of evaluative judgments must be conceived as physical or material. But that is too bitter a pill even for the realists to swallow, and hence they say that value-judgments, unlike factual ones, are subjective, not objective. Values, we are told, are dependent on consciousness, for they are functions of desire. (*Cf. "New Realism", p. 140*). The objects of desire are "of course" values, and their value consists only in their being desired. What we desire, that is value. Value, in other words, is simply the "desiredness" of things. But value, though dependent on desire, is said to be independent of the judgment which states the fact of its desiredness. For if value were "to consist in thought about value, we might be driven by the fear of a sceptical relativism into the heaven of an absolute thinker that should standardise values". (*Ibid*).—But subjectivism is not in any way superior to scepticism or absolutism, nor is it the only alternative to them. Besides, the New Realist is the victim of a confusion between "desiredness" and "desirability". There is a distinction between the "is" and the "ought" which has to be explained, and not explained away.

Objectivism places values in a different world raised above the world of facts and yet thinks that there is no difficulty in directly apprehending them. Perfectionism, itself a form of objectivism, regards values as transcendent entities but brokenly realisable here on earth. It rightly recognises that morality is not a matter of intuition, but involves understanding. But though "our ideals", as Pringle-Pattison says, "are the most real things in the world", we cannot fully understand their nature.—A consistent objectivism must regard values or ideals as remote and inaccessible of attainment. They must be too high and fine to be sullied by realisation. All that they would be able to effect is to arouse vague aspirations but to paralyse at the same time our energies at their source. For who would be fool enough to run after the rainbow, or, what is for all practical purposes a mere will-o'-the-wisp ?

Just as in the intellectual sphere absolutism spells death to truth and falsity, in the ethical sphere it plays havoc by liquidating all distinction between good and bad. For ultimate Reality is "beyond good and evil" and thus no moral ideal at all. In order to preserve the objectivity of values, objectivists have to depend on God. For even if it is maintained that values are somehow there in the Absolute though in a transmuted form, the position is not improved in the least. "Value" becomes meaningless without reference to desire, and the Absolute cannot have desires such as we know of.

If, however, values exist only for finite beings, they must be partly subjective and cannot therefore be regarded as purely objective and located in a mysterious region away from the common soil and common air of this world. They may indeed be regarded as the objects of God's desires, but such a God would be imperfect and could not claim divinity. "Values eternally realised" is only meaningful so long as the phrase is treated as an emotional experience of wishful thinking. Hence values cannot be wholly taken out of the context of human desires and efforts for their realisation.

4. Aesthetic objectivism views beauty as an attribue or quality "so inherent in objects that it would exist in them whether any mind perceived it or not". (*Richard Price, quoted by Raymond. in "Art in Theory", p. 127*). The aesthetic judgment on such a view puts us face to face with beauty characterising an object and waiting for recognition and appreciation. The germ of this theory is found in Plato for whom Beauty is an Idea brokenly manifested in the beautiful objects of the sensible world. All sensible things are imperfect copies of Ideas of whose nature they partake, though the latter are suprasensuous and independently real. The *Phaedrus* and the third Book of the *Republic* contain eloquent testimonies to the value of art, though that value is considered to be secondary. Beauty is by some secret affinity the nursing mother of truth and goodness. But since Plato regarded the Idea of the Good as the supreme Reality, all other Ideas being below it in the hierarchy of reals, it is quite natural to find him treat Beauty as a ladder to be kicked away when the apex of the pyramid has been reached.

Indeed objectivists have a tendency to regard beauty as an adjunct to the good or the true, and hence art as the production of the beautiful becomes a hand-maiden to morality, or religion, or philosophy. This is true of all of them beginning from Plato and,—as we come down the ages,—of Aristotle, Plotinus, Baumgarten, Mendelssohn, Fichte, Schelling, Hegel, Shelley and Tolstoy. (*Cf. Tolstoy, "What is Art?" pp. 90 ff.*). We are not directly concerned here with the function of art, but with the nature of the aesthetic judgment as the appreciation of a thing of beauty. And it is our contention that if the aesthetic judgment put us face to face with an objective beauty, the conflict among such judgments would be quite inexplicable.

But ideas of beauty vary from age to age and from clime to clime. If beauty were wholly objective and independent of appreciating minds, though brought into communion with them in aesthetic enjoyment, why do not all of us regard the same object as beautiful and that at all times? It often seems literally true that beauty is relative to the beholder's eye. One "sees Helen's beauty in a brow of Egypt", and another turns away with repugnance from the masterpieces of Rubens. The aesthetic taste has often to be cultivated if we would enjoy certain forms of beauty, as for instance, the paintings of Tagore and the classical music of our country. The variability of its appeal goes against the full-fledged objectivity of the beautiful, which is vouched for by the intuitionists. And so, however much we may be charmed by the beauty of Shelley's statement, we cannot admit the truth of it, that the poet "strips the veil of familiarity from the world and lays bare the naked and sleeping beauty which is the spirit of its forms". ("*A Defence of Poetry*"). He is a Platonist glorifying the Intellectual Beauty hidden from our gaze behind the sensuous curtain, "the white radiance" of which is stained by the "dome of many-coloured glass" which is life, and which also is the sensible panorama of the world. (*Cf. "The Hymn to Intellectual Beauty" and "Adonais"*). A thoroughgoing objectivism leads, by a strange irony, to a no less thoroughgoing subjectivism in every sphere of life.

5. Ethical subjectivism reduces moral value to a feeling of pleasure. Pleasure may be momentary or continuous, individual or social, but this, and nothing else, is the criterion of morality. As Mill says: "Pleasure and freedom from pain are the only things desirable as ends; and all desirable things........are desirable either for the pleasure inherent in themselves, or as means to the promotion of pleasure and the prevention of pain". (*"Utilitarianism", pp. 9f*).

No detailed criticism of ethical subjectivism will be attempted here, since it is already regarded on all hands as logically unsound. Pleasure may be one among other values, and it may even be regarded as a *sign* of value, but it is by no means identical with value. No subjectivist theory can account for the authoritativeness of moral ideals, the objective coercion exercised by ethical values. The subjectivists are right in discerning a connexion between values and experience, but they overshoot the mark by reducing values to feeling tones. A moral judgment has always a *de jure* authority, though not a *de facto* authority. If enjoyment by itself were a value, the judgment of value would not be different in any way from the factual judgment. If objectivism is wrong in sending moral values to a transcendent world, or putting them alongside of external objects, subjectivism is equally in fault by reducing values to mere feelings, mere qualities of mental facts in their existential character.

Both the extremes meet, in a sense, for they end by equating values with existents or subsistents. Clearly, the nature of the evaluative judgments in ethics cannot be explained by reducing them to another class of factual judgments, in order to preserve their objectivity, or to save them from the clutches of abstractionism. Subjectivism and objectivism must be united in such a way as to explain both the fallibility and the objectivity of moral judgments.

6. Aesthetic subjectivism maintains that beauty exists not in any trans-subjective sphere independent of minds, but wholly and solely in human feelings and sentiments. It is nothing but a peculiar way of feeling that we entertain about the world. Beauty is the aesthetic experience which is an awareness, not of the nature of things, but of out own nature in relation, no doubt, with things. This awareness is not an ordinary feeling of pleasure, but a pleasure derived either from a harmony of our faculties, or from an expression of complex emotions.

Beauty, says Hemsterhuis, is "that which gives most pleasure, and that gives most pleasure which gives us the greatest number of perceptions in the shortest time". (*Cf. Tolstoy, op. cit., p. 96*). Schopenhauer recognises that everything in the world is capable of being found beautiful if only we have the requisite capacity to appreciate it. Beauty, like love, is bestowed by us and by perfect genius will be withheld from nothing. Kant holds that in addition to the Pure and Practical Reason we have also "the judging capacity" which forms judgments without reasoning and produces pleasure without desire. This capacity is the source of aesthetic feeling. Beauty, however, is not to be identified with desire or with duty: nor is it to be confused with sensation or with pleasant sensation. It is distinguished by an activity of the Imagination of which we become aware by a pleasant feeling. It is, he says, the universal communicability of a state of our minds which precedes and occasions our pleasure: and this state of mind is the free harmony with one another of these faculties of perception whose activity is necessary for any knowledge. "But of this harmonious relation between our powers we become aware by feeling, and Kant does not consistently make it clear that this feeling is not itself pleasant". (*Carritt, "The Theory Beauty", p. 101*). Kant seems to be driving at the view that aesthetic experience is the intuition of an individual as it is in itself, and that this individual is in the last resort a state of our own mind. So we come back to the position that beauty is subjective in its essence.

For Gaultier beauty is but aesthetic emotion made objective, while Santayana views it as objectified pleasure. According to Croce, beauty is no quality of things but comes into being as the result of a spiritual activity. This activity is the aesthetic experience which may be described as self-expression, for expression and intuition are identical. "That which has to be expressed and that which can express it first become beautiful when indistinguishably fused in the expression". Art or the experience of beauty is for Croce, as it is for Hegel and Schopenhauer, a kind of knowledge, the knowledge of the individual. But what is it that is expressed or intuited in aesthetic experience? It is something that takes place in ourselves, yet of which we often become aware only by great efforts. "We catch a glimpse of something, but we do not have it in objective form before our mind". This unknown something, assailing and transporting us as if from without is the matter or content that differentiates one content from another. The form, however, is constant; it is the spiritual activity of intuition which is expression. The matter is further described as sensations and impressions, crude emotions or complex mental states.—Such theories succeed in explaining the relativity of beauty but rob aesthetic judgments of any the least claim to objectivity and therefore of general acceptance.

7. Thus both objectivism and subjectivism in their diverse forms fail to do justice to the issues involved in the domain of evaluative judgments. Both reduce the value-judgment to a non-judgmental experience, the one reducing it to an act of intuition or direct vision, while the other distilling it into a mere feeling or emotional complex. The referential character of judgments is lost sight of by both and, in consequence, value is regarded as an entity, or as a mere feeling tone, either of which is an abstraction with no foothold on reality. But a judgment is at once existential and referential. It is an act of the subject and is subjective in that sense; but it points, at the same time, to an objective reality and is objective as well. Both subjectivism and objectivism seize upon one of these aspects of the concrete experience to the utter neglect of its other, concomitant aspect.

7. The subjectivist is right in insisting on the inalienable connexion between value and experience. On the contrary, the objectivist rightly

urges that value cannot be equated with the existential aspect (which he would call the subjective side) of experience; but he errs by supposing that value is a quality, or entity, directly contacted by the mind and capable of existing or subsisting by itself without reference to human experience. Once we recognise the complex character of value-judgments, we shall feel no temptation to reduce values either to emotional complexes, or to entities capable of subsisting independently of all human experients.

8. What ordinarily go by the name of logical judgments are descriptive, while axiological judgments are *evaluative*. The former merely describe the nature of existents or of their abstracted features, but the latter also appraise the worth of their objects. While a factual judgment or assertion is *about something*, an evaluative judgment is *also upon some one*. *The value-judgment reviews the nature of a belief, aesthetic experience, or moral consciousness and passes a verdict on it.* It is clear that such a judgment is also about something real, for otherwise it would not be a judgment at all. The axiological judgment, just like the factual one, is referential; and the reference in question is to a physical fact or to a mental act. But the verdict is passed always upon a mental process which contains the objective reference as one of its inseparable factors.

The mental process upon which the judgment is passed may be a belief (or awareness of existence), aesthetic experience (or enjoyment of beauty), as well as moral consciousness (or discernment of moral value). The reference is to a correlated aspect of existents, not known apart from the judgment as a thing-in-itself, but only as revealing itself in and through such experiences. The validity of the judgment is dependent on the referent, which is *apprehended* like the sensory core of a perceptive assertion but is saturated with interpretative factors and is known only as thus clothed with meaning and is not communicable in its naked value-character. Hence it is not proper to apply the term "truth" indiscriminately to all forms of evaluative judgments; it is relevant only to what we call noetic judgments, as distinct from aesthetic and ethical ones. Truth is one form of value, but not all values are kinds of truth.

9. It might be said that the referent of a value-judgment is a cognitive, affective, or conative state in its existential character, and not any elusive feature of these experiences. Such an opinion, however, would rest on a double confusion. First, the referent in

the case of aesthetic judgments is not necessarily and even usually a mental state. Secondly, the aesthetic experience cannot straight off be identified with a mere feeling, nor with moral consciousness, or conative experience. Moreover, even when the referent is a mental state, it is not viewed in its existential aspect but only in its valuational aspect, which will be examined more carefully in the sequel.

Meantime, we must note that if the reference of evaluative judgments were to the existential aspect of mental states, there would be no distincion bewteen these and introspective assertions. Introspection is concerned with mental states as parts of the life-history of an individual mind : but evaluative judgments are evaluative because they focus their attention on another aspect of these states. Introspective assertions are factual or descriptive; while evaluative judgments, even when their referents are mental acts, are not merely introspective.

No primary assertion is the result of a comparison between a fact and a norm : but all evaluative judgments are consequent on such comparison consciously made. For the evaluative judgment involves a comparison in imagination between the given and the ideal which may be described as conceptual. It involves a conceptual interpretation of the given experience which is cognitive, or aesthetic, or ethical. This shows why we cannot speak of a primary assertion being passed on something, but being made about something; and why an evaluative judgment is truly regarded as being passed on an experience about a feature of the experienced object. An oversimplification of the value-judgment is partly responsible for many difficulties about the nature of values.

10. A *noetic* judgment, by which we mean a *value*-judgment passed on a *belief or assertion*, may be described as an acknowledgment or "truth-claim". Such a judgment declares that it is right, legitimate or valid to make a particular assertion. It is thus evaluative; it judges an assertion and passes a verdict on that. It claims noetic value for an assertion or primary judgment which does not itself make any claim to be true.

The evaluative character of a noetic judgment has always been ignored because of its confusion with a primary judgment (or assertion) which is descriptive or factual. An assertion does not sit in judgment on its own function or character, but is the unreflective acceptance of a propositional reference. It is true or false, but its own truth is no matter of contemplation for it. This is forgotten by those who describe every judgment as a truth-claim, or speak of the proposition as the assertum or object of belief. If, as we hold, all assertions are either true or false, they are cognitive acts, and no mere verbal utterances unaccompanied by an attitude of belief. They are actual, concrete mental processes which can never occur twice. Sentences as vehicles of communication are expressions of asserted propositions, with the sign of assertion present in a verb in the indicative mood. As such they are asserted or assertible propositions, but not actual assertions which are mental occurrences not transferable from one mind to another.

It is the confusion of the assertion (i.e., asserting) with the proposition (reference) which has led logicians to apply to an assertion the epithet of "truth-claim". If the proposition is regarded as a distinct entity which is asserted of an object, the assertion may be said to claim truth for the proposition. But we have seen that the proposition is nothing but the objective reference characteristic of all cognitive acts, and hence what is asserted (in a primary judgment) is not a proposition but an existent fact. Hence such a judgment is no truth-claim, if by truth-claim is meant that the judgment itself puts forward such a claim. Such a description is either due to the over-intellectualisation of an unreflective primary judgment, or a consequence of regarding the assertion as wholly identical with the indicative sentence which is supposed to be an external tag to the knowing process. In other words, the original assertion, as it takes place, is no truth-claim because it does not claim truth for itself. But when the assertor himself, or someone else, considers the assertion as expressed in words (imaged or uttered), he passes a judgment on the assertion about its truth or falsity.

It is of utmost importance to realise that the secondary judgment is no combination of two different assertions, each of them primary, but is a single judgment which is at once despriptive and evaluative. The referent of the noetic judgment is a previous assertion now viewed in retrospect, and the specific reference is to the truth-character accruing to it because of the relation of its propositional reference to an existent fact. As mentioned earlier, a value-judgment may involve introspection, but is not tantamount to an introspective assertion which is concerned with the referent as an existent mental state. Introspection, in other words, is not interested in the truth or falsity of a cognitive state, but only in its existential character as part of the life-history of the subject.

11. The value-claim that the noetic judgment makes may be justifiable or not: the judgment may be valid or invalid. But the validity of the noetic judgment is not the same as the truth of the relevant assertion, though the one depends on the other. Because of this dependence truth comes to be called a value and is regarded as one of the trinity of "ultimate" values. We contend that the appellation 'value' can belong properly to the "truth" of *noetic* judgments alone, and not to that of primary judgments or assertions.

Values are not self-subsistent entities, nor merely subjective feelings, nor even qualities of certain relations between the subject and the object unless they become referents in evaluative judgments. All values involve the element of "*oughtness*", and are meaningful only as the objects of judgments passed upon subjective states. This "oughtness", to be explained presently, is absent from a primary judgment which is merely descriptive and factual. For it simply says: "Something *is* so-and-so"; not "someone *ought to* think in such a manner". That upon which a value-judgment is passed is always a person or a personal experience. All values involve a reference to human experience.

12. "A is B" is an assertion; its truth (or falsity) means the conformity (or non-conformity) of its propositional reference, "A being B", with the relevant fact. When I think or assert that A is B, what I mean is that there is a factual situation corresponding to my assertion or thought. The referent of my assertion is an existent, and even in the case of a false assertion there is such a referent, though the character of the existent is not as I had thought it to be.

The so-called existential judgment is an elliptical sentence, and no exception to the general description given above. The same is true of negative assertions. Every negative assertion contains as part of its referent an otherness which is as objective as identity, relation, etc., and which we have embodied in our list of categories. The negative assertion does not ordinarily refer to a bare otherness, but to a specific kind of difference which includes otherness among its features. Truth is the conformity between the propositional reference of an assertion and the existential referent, the object of an assertion or primary judgment. But when I say that the assertion "A is B" is true, I have a secondary assertion expressible in the form "It is true that A is B". This is not a mere assertion about a fact, but about the truth-quality of the cognitive act expressed in the sentence "A is B". In other words, it is not merely a judgment *about*, but also *upon*. This noetic judgment is not the same as the assertion "A is B".

We differ here from the mathematical logicians (and perhaps from most others) who say that "It is true that A is B" and "A is B" are equivalent, and so also "It is false that A is B" and "A is not B". (*Cf. Johnson, "Logic", Part I, p. 52; Russell, "Principles of Mathematics", p. 504*). A negative assertion is properly expressible in the form, "Not that A is B"; it does not deny a previous assertion, but merely rejects the suggested proposition "A being B". An affirmative assertion and its "corresponding" negation are not on a par with one another. All denials are negations, but not all negations are denials. A primary negation merely rejects a suggested proposition, but a denial passes a verdict on an "asserted proposition", i.e. a complete assertion. There is consciousness of noetic value in the secondary assertion (positive or negative) which is absent from the primary assertion.

13. The validity of the noetic judgment, however, is derived from the truth (or falsity) of the corresponding assertion. This is why no distinction is made between descriptive and evaluative judgments in the intellectual sphere. But such an attitude ignores the "subjective" aspect of concrete judgments on which we have laid so much stress. It is evident, however, that a mere assertion that A is B, and the contemplation that 'A is B' is true are different not only verbally but also mentally. Those who reduce the latter to the former ignore the value-consciousness present in the secondary judgment. When I know A as being B, I may be pleased, but such pleasure is not any awareness of the value of A. But as I contemplate I am in possession of a truth, that gives me another kind of pleasure which may be said to be disinterested. The knowledge of A may be pleasant or unpleasant and the hedonic feeling depends on my practical interests. But the contemplation that I am in possession of a truth gives me another sort of pleasure which is disinterested in a legitimate sense.

This pleasure of contemplation which is part of the consciousness of noetic value may be fleeting, because the knowledge may have a direct bearing on my practical interests, and A may be harmful to me. But even in that case the contemplation that I am in possession of a truth yields a satisfaction which can be ignored by none. Hence the subjective side of the noetic judgment cannot be regarded as a cold belief. And this intellectual pleasure has a smaller and smaller risk of being sullied by pain, the farther and farther is the assertion from the daily interests of our humdrum existence. If there is any justification of speaking of truth as a value, then, (as a Persian verse has it), "it is here, it is here, it is here". A feeling tone is mixed up with the subjective attitude towards every value, and this is one of the reasons why some people would equate value with pleasure. But the satisfaction thus obtained cannot be called a physical pleasure connected with organic and peripheral sensations: it is far more complex.

14. All value-judgments involve a consciousness of "ought" which is not resolvable into any other awareness. It is the awareness of the demand of an "ideal" upon the mental state on which the judgment is passed. This awareness is not a reference to the future; it is the conviction that something should be done, whether there is a chance of doing it in future or the chance has gone for ever. The noetic judgment declares that a particular assertion is rightly or wrongly made by some one, that he has thought as one should think, or that he has not thought as one ought to think. There is no other way of describing this unique experience. Those who reduce this consciousness of "ought" to a mere feeling of pleasure or of unpleasure, or to a reflex of the cognitive awareness of facts, are guilty of a misrepresentation of the actual situation.

The "ought" does not apply to physical existents, but only to the voluntary acts of human beings. Hence it is not quite correct to say that "when we call an object bad or ugly we assert or imply that it ought not to be as it is". A physical fact is what it is, and it is meaningless to say of it that it ought or ought not to be such and such. It is only when such things are manufactured articles that the value-judgment may be passed in respect of them. But even in that case the judgment is passed not upon the things themselves, but on the persons who are responsible for their manufacture.

A value-judgment can be passed in regard to natural things only on the assumption that they have been brought into being by a Person akin to man. And unless we are ready to declare with Browning's Pippa that—

"God's in His heaven,
All's right with the world",

we shall have to admit both positive and negative values, and the Supreme Person, then, would lose some of His supremacy and be reduced to a magnified man. But Logic need not pry, in Hume's phrase, into "these sublime mysteries", and we rest content with asserting that a value-judgment can be passed only on the actions of a rational animal who can look before and after, and is troubled by a spark of doubt, because his vision is limited and the capacity for action sadly curtailed by the external environment.

15. Primary or descriptive assertions do not contain any consciousness of value, because they are about what *is*, not about what *ought to be*. It has been suggested that all language is both representative and evaluative, because it has always an emotional colouring. (*cf. Kabir, op. cit., p. 40*). But this does not invalidate the distinction between factual and value judgments inasmuch as the mere presence of feeling does not make a judgment evaluative. If mere feeling were identical with value, all assertions would be evaluative, and this for the simple reason that no concrete mental state is purely cognitive, affective, or conative. It is the peculiar kind of satisfaction we get from finding that the claim of the "ought" on the "is" has been substantiated, which is the sign of value and which is not present in the factual or descriptive judgments.

The profound persuasiveness and the unquestioned authoritativeness of the "ought" for the human mind is not explained, but explained away, by the ultra-positivistic theories that reduce the "ought" to a mere reflex of the "is", or a falling off from the robust realism of the cognitive awareness. The value-consciousness is not a mere improvement on, or a degradation from, the awareness of existent facts. Thus we reject both the evolutionary and devolutionary theories of Spencer and Nietzsche on the genesis of value-consciousness.

But, at the same time, we refuse to make a sharp cleavage between the "ought" and the "is", the ideal and the actual, both of which are rooted in the soil of reality. The awareness of the "ought" involved in every value-judgment is simply the recognition and acceptance of the claim of the ideal on the actual states of our minds. The ideal is not a transcendent Form for ever eluding our grasp, or coming down from its exalted sphere at our beck and call. It is simply the imaginative reconstruction of the actual projected into the real in the hope that the potential may be moulded in accordance with it.

This may sound extremely disingenuous and a mere re-statement of the evolutionary explanation. But though we maintain that the value-awareness is as fundamental and primitive as the awareness of facts, we admit that the particular ideals cherished by us are fashioned and refashioned in the life-history of an individual and a race. Even the ultimate values of Truth, Beauty and Goodness are *regulative principles* : they are not qualities of any extra-mundane individual, but simply the systems of our noetic, aesthetic and ethical judgments. The *criterion* that we use in passing value-judgments is a system of truths, of aesthetic, or of ethical judgments, so far as we are ourselves able to comprehend it. Thus, on our view, the criterion of truth, beauty and goodness is, in each case, *coherence* or harmony in the autonomous systems of logical, aesthetic, and ethical judgments.

We have no ideas of perfect beauty, truth, or goodness, and the criterion that we use is incurably imperfect. This explains why we are liable to error in respect of all judgments, logical, ethical or aesthetic. And this also shows that the intellectual, ethical and aesthetic "tastes" have to be cultivated, and that, after all, disputes about "tastes" are natural and justified. But as Locke said, "God has not been so sparing to men as to make them merely two-legged creatures, and left it to Aristotle to make them rational". (*"Essay", Bk. IV, Ch. XVII, Sec. 4*). Aristotle could not convey his teachings to us if we were "featherless bipeds" without rationality or capacity of knowledge in its full-fledged form. We react to our environment in different ways, and some of these responses are cognitive, some aesthetic and some ethical,—the environment being both physical and social. As we admitted an intuitive element in the primary assertions, we must do so in the value-judgments as well. Otherwise, values would be reduced to impalpable phantoms having no foothold on the world of stubborn existents.

The intuitive element of the noetic judgment is the felt conformity between the judged assertion and the general body of our knowledge, and, sometimes, between the original assertion and another involved in the process of verification. We have seen that even the basic assertions are not wholly free from the risk of error, and the same is true of the most direct of the noetic judgments. Moreover, the intuition of the slender sensory core of the perceived object is not a complete act of knowledge which is communicable, and so also is the intuition of truth-value in the case of non-inferential noetic judgments. All judgments, whether descriptive or evaluative, involve interpretation, and as communicable experiences are never fully direct intuitions or visions or communions.

16. The ethical judgment is passed on a voluntary action. Every such judgment is an approbation, or disapproval. As the knowledge of the voluntary character of another man's action is analogical, an ethical judgment passed on others is derivative or inferential, and we are concerned here with an inferentially primitive judgment. Hence we will discuss the nature of the moral judgment passed on one's own actions.

Actions, however, are the results of volitions or effective motives and the judgment is directed upon the motive of a particular action. The motive is not the mere desire for an object; it includes also the desire for the means visualised for the effectuation of the desire. Hence it contains a reference to the expected consequences of the actions, the expectation being based, of course, on the previous experience of similar happenings. The results are judged in the light of their conduciveness to human welfare in a broad sense, biological and psychological. This is no doubt a pragmatic test, as success in practice is a pragmatic criterion of truth.

But just as the chief criterion of truth is a consistency among intellectual judgments, the main standard of morality is a coherence among the accepted body of ethical judgments. And while the nature of truth is correspondence between the reference of the assertion and the referred existent, the nature of morality(=ethical validity) is congruence between the moral judgment and its referent which is a motive or desire. We know the motive by introspection, and as it is introspected it awakens a response which is moral consciousness. This consciousness, which is intuitive, is the central core of the moral judgment which involves interpretation in the light of the moral ideals that we recognise and accept.

The intuitive basis of the moral judgment often goes by the name of "conscience", the still small voice of our higher self which is the ideal that we would like our actual self to realise. The sense of duty or obligation, the feeling of "ought", is the acceptance of the claim of the ideal on the actual; and the feeling of remorse occurs only when the actual fails to come up to the accepted ideal. Remorse is the experience of negative ethical value, and happiness is the experience of the positive. The moral judgment is thus passed on the motive about its ethical quality.

This quality is elusive, just as the objective basis of beauty is, as we shall see hereafter. But unless we are ready to embrace a thoroughgoing subjectivism, we must accept some form of objective basis, even although we cannot define or describe it all by itself. But does the situation differ fundamentally from that of a noetic judgment? A noetic judgment, we have seen, is passed on an assertion which has for its objective basis (in the case of perception) a sense-quale suffused with imaginative ingredients. The sensory core cannot be regarded as a thing-in-itself, because it is evidently dependent to some extent on our sense organs. Some sort of objective description is sought to be given by saying that the objective basis is a potentiality of sense-data or a *sensibilium.* It will not do to say that the sensory core is a spatio-temporal contour, or an air-vibration, or an ether-wave, for these are never experienced as such but only inferred as "verae causae". Unless, therefore, we are prepared to accept a Kantian thing-in-itself, which is self-contradictory, we can at best declare the objective basis of sensory experience to be the potentiality for it. A positivistic doctrine, which is at once intuitional and rationalistic, appeals to us as the most satisfactory (i.e., the least objectionable) hypothesis for the explanation of factual and evaluative judgments.

17. This theory enjoins us to regard the objective basis of the moral consciousness as the potentiality of a motive to give rise to the moral experience, which is mainly, but not wholly, conative in character. The subjective side of the moral judgment thus includes a moral awareness which is, in a way, described correctly as the approval or disapproval of conscience. There is no conscience, however, in the form of a moral sense,—a mysterious sixth sense or faculty, being the sole repository of our moral convictions. Neither the "moral sense" of Hutcheson and Shaftesbury, nor the Practical Reason of Kant, nor again the Censor of Freudian psychology, is to be accepted as a distinct faculty functioning alongside of reason or intelligence.

The shades of Faculty Psychology haunt us every now and then, and it is surely time we laid the spectre for good. Mind as a dynamic agent is a unitary whole. It performs different kinds of activities which can be broadly classified into three groups, viz., cognition, affection and conation. But we should not regard the mind as a composite entity made up of monadic ideas, or instincts, or faculties, and the like. Neither the fact of multiple personality, nor the recognition of instincts as mental drives, militates against the conception of a unitary self which lives only in and through its activities. Our knowledge of the self, as explained earlier, is partly an ideal construction based on introspection.

The moral ideal that is used as the standard of moral judgments is not the idea of a Perfect Being, but a body of self-consistent ethical judgments imbibed and reconstructed by the self in the course of its experience. A *foolish* consistency may be the hobgoblin of little minds; but a sober consistency is the ideal of a strong personality, who, though not absolutely rigid and fossilised, is not likely to refashion his ideal at every turn of events in his daily life. The fashioning of ideals goes on throughout childhood and adolescence, but is generally complete by the dawn of manhood; though for a lively soul the transvaluation lasts till senility warps the fibre of personality.

The ideal, however, so long as it remains such, it self-consistent and claims unconditional authority and possesses a profound persuasiveness. And ideals have both right and strength, authority as well as power, and they do govern the world. But such ideals are not the ideals of all mankind, but only of some nations and individuals. The supreme ideals of truth, beauty and goodness, however, are as yet only partially realised in the thoughts and actions of even our greatest men. But no man will ever master all knowledge, enjoy all beauty and translate into practice all the moral precepts that form the code of ideal morality. Life is too short for that.

18. The aesthetic judgment is passed on an aesthetic experience about the character of the object experienced. This character is elusive and has baffled all attempts to describe it in adequate terms. This is why people tend to regard beauty, the object of aesthetic experience, as a purely subjective character; and this, too, is the reason why some consider it to be a transcendent entity revealed but partly in the world of man and nature. It may perhaps be described as a structural or functional harmony that characterises all objects of aesthetic experience. But the harmoniousness in question cannot be wholly an objective affair, and hence we are justified in regarding it as the potentiality of arousing the aesthetic experience in us. Such experience leads to the production of a work of art, or else is one that enjoys the work, or a natural object.

The "ought" in the aesthetic judgment is the conscious permission as to the continuance of the appreciative experience: it says, as it were, "you should enjoy it, go on". Judgments like "x is beautiful", or "y is ugly" are not aesthetic judgments, but intellectual assertions derived from previous experience and inferential in character: (x and y stand for the names of particular objects). They are not simple assertions, but complex or implicative judgments elliptically expressed. For "x is beautiful" is equivalent to "If anyone perceives or imagines x, he will enjoy it as a beauty". (Similarly, sentences like "x is a crime", or "y is honest" express intellectual assertions of the implicative type. The genuine ethical judgment is a secondary judgment of the form: "This motive should be entertained" or "This should not be cherished"). The genuine aesthetic judgment is of the form: "This object should be enjoyed (or not)".

In order to bring out the secondary character of the aesthetic judgment, we may symbolise it as follows: "It is pleasant to experience x", or "It is unpleasant to experience y". (The corresponding forms of the ethical judgment are: "It is right to act thus", or "It is wrong to act that way"). If the trinity of ultimate values is truth, beauty and goodness, the corresponding attributes of evaluated experiences are true, pleasant and right. The term "pleasant" is apt to be misleading and hence it may be replaced by "aesthetic", in the absence of any other suitable term. It is clear now that the terms true, aesthetic and right are not properly applied to things, but only to experiences, cognitive, affective and volitional. The values themselves are realised and realisable only in and through these experiences.

19. Art is the production of a thing that awakens the aesthetic response in us. It should not be confused with the aesthetic experience which accompanies or precedes it. Those who confuse the creation with the experience find it extremely difficult to show how the unique experience can be communicated at all.

Alexander defines the aesthetic experience as a pleasure arising from the "satisfaction of the aesthetic impulse", which is "the constructive impulse diverted from practice and become contemplative". ("*Beauty and other Forms of Value*"). This description recognises the divorce of such experience from all practical affairs. The constructive impulse is imagination which plays a dominant role by investing the experienced object with a halo of suggestion and meaning. The overplus of such suggestions would not be present if the imagination were restrained by pragmatic considerations. The cognitive and the conative interests are held in abeyance, and the satisfaction, which is the experience, is wholly disinterested. Hence Oscar Wilde bluntly declares that "all art is useless".

But whether art is useless or not, the aesthetic experience which it symbolises is its own fulfilment. No pragmatist can explain how the aesthetic experience is instrumental in any intelligible sense. It has no ulterior purpose, theoretic or practical. As imagination assumes an overwhelming role, all sense of reality is lost, and we simply drink in the beauty that seems to be there, even though it cannot be all the object's own.

This enjoyment is not wholly passive nor is it self-identification with the object as some believe. There is all the time a consciousness, however dim, of the duality of the subject and the object, of the enjoyer and the enjoyed. For "it takes two not only to make a bargain; it takes two to love and to be loved", two to enjoy and be enjoyed. The most self-effacing experience must retain a glimmering of the duality in order that there may be any experience at all. The total absence of duality would spell death to consciousness. The aesthetic experience is not a negation of aesthesis, or anaesthesia. On the contrary, the highest form of aesthetic enjoyment, full and complete, "not only requires tremendous training beforehand, but intense activity at the time".

The creative experience, however, need not be equally active. In some cases, it is, as Wordsworth says, the expression of "emotion recollected in tranquillity". In others, it is the recording of a siwftly vanishing inspiration. In Shelley's words: "The mind in creation is as a fading coal, which some invisible influence like an inconstant wind, awakens to transitory brightness; this power arises from within, like the colour of a flower which fades and changes as it is developed, and the conscious portions of our nature are unprophetic either of its approach or its departure. Could this influence be durable in its original purity and force, it is impossible to predict the greatness of the results: but when composition begins, inspiration is already on the decline, and the most glorious poetry that has ever been communicated is probably a feeble shadow of the original conceptions of the poet". ("*A Defence of Poetry*").

Both Wordsworth and Shelley have given us descriptions of art which is the expression of an aesthetic experience. The possibility of artistic expressions depends on the aesthetic judgment which contains the aesthetic experience but is not one with it. Rather, the judgment is passed on the experience as interpreted and the communication is rendered possible by the interpretative function which discovers the community of the experience with others of a similar nature.

20. The view of aesthetic enjoyment as monadic emphasises its uniqueness at the sacrifice of its expressiveness and communicability. If the experience were devoid of all interpretation, then indeed it would be unique, a sort of intuition which is essentially ineffable. Here, as elsewhere, intuition is a logical *prius* of all direct experience, but it cannot be regarded as a complete experience which can be expressed in language. An esoteric immediacy would make the experient "enisled in the sea of life", and no one would ever speak or even hear of such an exile. It is only because the immediate experience is surcharged with nuances of suggestions and meanings that it is so rich and vivid, capable of holding us "spell-bound" and throwing open to our intensified vision—

"magic casements, opening on the foam
Of perilous seas, in faery lands forlorn".

The uniqueness of the aesthetic experience does not consist in its felt immediacy shorn of all interpretative elements. The distilled experience is purged indeed of cognitive and conative dregs as far as possible. But a complete evaporation of these factors would take away with them all feelings and the residue would not be a heightened emotion but a pure anaesthesia. It is difficult to conceive that such an aestheic euthanasia is the experience extolled alike by the artists and the admirers of their immortal works. The very fact that the aesthetic experience is communicable is .abundant proof of the cognitive element lurking under the waves of emotion and the conative element whispering all the time to our mental ear : "Hold on ! hold on" !

It is only a false psychology that regards the cognitive, conative and affective factors detachable from one another even in a single mental state or experience. The aesthetic experience is pre-eminently emotional, but it contains also conative and cognitive factors. The cognitive awareness is not a mere intuition but imaginative apprehension which is judgmental in character. While the noetic judgment is passed on a previous assertion, the ethical judgment is passed on a previous motive or conative experience, and the aesthetic judgment is passed on a previous enjoyment which is aesthetic experience. But neither the assertion is purely cognitive, nor is the motive purely conative, nor again is the aesthetic experience purely affective in character.

21. The value-consciousness does not emerge till we have passed a secondary judgment on the previous experience whether intellectual, aesthetic or ethical. Beauty is a value only to one who is capable of passing an aesthetic judgment on his own enjoyment of a thing of beauty. Unless we are able to do so, we cannot make of it a joy for ever. And the success of a work of art is proportional to its expressibility, which means ability to evoke similar responses in the minds of all who come across it at opportune moments.

Truth, beauty and goodness are not writ large on the face of things and experiences. These must be judged in order that we may recognise the value that is realised in them. Such recognition involves, we have seen, a comparison between the experience and the standards of truth, beauty and goodness, each of which is embodied in a system of judgments, autonomous and ideal.

CHAPTER XII

INFERENCE AND IMPLICATION

1. Inference may be described as a mental process that consists in passing from two assertions to another which is found to be justified by them jointly. This description tries to bring out the distinctive elements of the concrete act of inference and may pass as a definition of the term "inference".

Inference is a mental process and never a product. Some logicians make an invidious distinction between inference as a process and *an* inference as the product of that process. This is obviously the result of too much reliance on grammar. Grammatically, "inference" is an abstract noun which differs from "an inference" as a concrete noun. This barbarism should not have been introduced into the sphere of logic as a gospel truth and made the basis of a logical distinction. This is partly due to the fact that cognitive acts symbolised by language are written on a surface where they lie side by side as separate items or products. We must not forget, however, that significant sentences stand for mental acts without reference to which they are not sentences, but visible (or audible) shapes wholly physical in character. Even the conclusion which follows from the premises should not be regarded as a product on the analogy of a finished commodity turned out by a manufacturing process. Neither judgment nor inference is an act of *making* in the accepted sense of that term. While judgment is the apprehension of an objective referent existential or subsistential, inference is the apprehension of a specific relation between three assestions of which two are given, the third being elicited from them by the mind.

It may be objected that in some cases both the premises and the conclusion are supplied to us by others, and so the conclusion cannot be said to be extracted from the premises by us. But the objection would rest on a misunderstanding. Neither a judgmental nor an inferential act can be bodily transmitted from one person to another. The sentences which symbolise others' inference merely induce us to perform the act ourselves. Unless we do so, we cannot properly know the relation between the premises and the conclusion. And as soon as we have ourselves asserted the premises, we find that we have to assert the conclusion as well. This is but another way of saying that the conclusion is drawn from the premises, or that the premises lead to the conclusion.

2. But here an interesting point arises. What is regarded as an inference by one person may not be so regarded by another. In other words, when I repeat the assertions which led you to another assertion supposed to be justified by them, I may not be able to detect any such relation between the assertions as would justify the assertion of a fresh judgment. This indicates that *inference has both an epistemic and a structural aspect*. The epistemic factor of inference is an act of mental transition from two assertions to another. The structural aspect is a relation between the propositions asserted in the premises and that asserted in the conclusion. This relation often goes by the name of implication, but is surrounded by a mist of ambiguity which must be dispelled before we can see it in its proper light.

3. "In order", says Russell, "that one proposition may be inferred from another, it is necessary that the two should have that relation which makes the one a consequence of the other. When a proposition q is a consequence of a proposition p, we say that p implies q". (*"Principia Mathematica", Vol. I, p. 90*). Russell takes inference in the sense of deductive inference in his earlier discussions of the subject. As he puts it emphatically in *"The Principles of Mathematics"*: "I may as well say that I do not distinguish between inference and deduction. What is called induction appears to me to be either disguised deduction or a mere method of making plausible guesses". (*p. 11 footnote*). It comes therefore to us as a surprise when we are told elsewhere that "every inference worthy of the name is inductive". (*"An Outline of Philosophy", p. 285*).

This is indeed a palpable self-contradiotion, but is quite understandable when we consider the motives which led him to make such conflicting statements. They are complementary half-truths relating to two distinct but inseparable features of all inference. For every inference gives us some new information which is yet derived from the premises that certify its correctness. The conclusion, in other words, constitutes a real advance in knowledge: it is not a mere repetition in different words of the information contained in the premises. And yet the conclusion is not wholly new; it is not a perceptual, mnemic, or introspective assertion, all of which are forms of direct or immediate knowledge. The conclusion of an inference is derived from its premises (or given materials) which also certify its truth. It is, therefore, both new and guaranteed by the premises.

Now, if you focus your attention on the element of *novelty* in the conclusion, you may in a mood of excessive zeal extol induction to the skies, because in it this feature of novelty is eminently present. If, on the contrary, you emphasise the *warrantability* of the conclusion, you may, by a similar excess, regard deduction as of supreme importance, since it illustrates this character in a conspicuous fashion. But the probative character of the premises and the novelty of the conclusion are the twin marks of all inference. Hence we cannot equate inference with either deduction or induction and deny to the other all claim to the title.

When Russell glorifies induction, he ignores implication which binds together the structural factors of inference in a unique way. This is why he quotes with approval Keynes who treats probability as an indefinable relation between the premises and the conclusion of an inductive inference. (*Cf. "A Treatise on Probability", passim*). None the less, he feels that such a view "leaves an uncomfortable gap between probability and fact", and would like to subscribe to the frequency theory which derives probability from statistics. (*Cf. Nisbet, "The Foundations of Probability" in "Mind", January, 1926*). We, on the contrary, maintain that neither theory does justice to the logical necessity that binds a conclusion to its premises. Russell is aware of this in the discussion of mathematical reasoning, where he expressly equates deduction with inference.

But if we accept the necessary connexion of premises and conclusion in deduction and reject it in induction, there is no sense in considering both of them as inferential processes. This fact, we suggest, has not been properly realised by those who regard induction as inferential and yet deny to it the necessity that belongs to all inference. We are far from minimising the difficulty of the situation. On the contrary, we contend that it can be removed only by formulating a new theory of implication and offering a classification of inferences based on it. The traditional distinction between deductive and inductive inference must be replaced by a distinction between two methods of forming subsistential and existential judgments of implication which figure as premises in the same type of inference. This will be explained and justified in a subsequent chapter.

4. According to Russell, as mentioned above, "when a proposition q is a consequence of a proposition p, we say that p *implies q*". This will perhaps pass as a harmless statement, because *implicate* is regarded as a synonym for *consequence*. Russell's definition is plausible, since he identifies inference with deduction in that particular context. For the relation of ground and consequence obtains between the referents of component propositions of a mathematical reasoning which deals with abstractions. In such a case the conclusion contains both the consequence and the implicate. Most thinkers will, however, agree with him in identifying implication with the consequential relation. None the less, we regard this as a cardinal error. The consequential relation obtains among abstractions which are nothing but the results of conceptual analysis and treated as isolable entities. Such a relation is, at bottom, another name for the self-consistency of thought. Since the consequential relation is the same as formal consistency, we cannot equate it with implication which conditions real information in the conclusion of an inference. Hence if "implication" is treated as a synonym for "consequential relation", we cannot regard it as the validating factor of inference.

5. The identification of implication with the relation of ground and consequence provides an interesting study in psychology. Philosophers are fascinated by what is known as absolute certainty which they view as the touch-stone of genuine knowledge. The conclusion of an inference, they fancy, will be true beyond question only when it is based on formal consistency alone. This is also the reason why many thinkers reduce causation to implication, because thus alone they find it possible to justify causal reference or induction. But it is time we removed this double confusion in the analysis of inference.

The causal relation holds between existent facts which are spatio-temporal in character. But the consequential relation obtains among entities which are abstracted features of spatio-temporal objects or existents. Both of them lead to inference and have therefore been equated with one another and identified further with the implicative relation that binds the conclusion to the premises in their structural aspects. We will discuss in a subsequent chapter the nature of the causal relation. Suffice it to say just now that there is no necessary or unfailing link between the cause and the effect as concrete existents. Nor is implication a necessary relation in the sense of formal consistency or obedience to the "Laws of Thought". An inordinate desire for formal consistency is responsible for the confusion between implication and the consequential relation, and to the same desire must be traced the superstition that causation is partly or wholly identical with implication. The underlying rationalism of such tendencies has come to the surface in Joseph's virtual reduction of the Inductive Principle to the Law of Identity. (*"An Introduction to Logic", pp. 408 ff*). Implication is indeed the root-cause of much perplexity in philosophical discussions.

6. There is, however, a description of implication which is acceptable to all shades of opinion. It runs thus : ' "P implies Q" is equivalent to (i) when P is true, Q is true, and (ii) when Q is false, P is false'. This shows some connexion between implication and validity, but does not by itself tell us much. Inference, as mentioned earlier, has an epistemic aspect which consists in a mental transition from two judgments to a third. This transition is not a matter of choice or caprice. When the judgments are related as parts of an inference, we must assert the third once we have asserted the other two. There is, in other words, a logical necessity between the premises and the conclusion. This necessity is of the very essence of inference. The concept of implication is an attempt to bring out this distinctive mark of inference as a unique way of knowing. The recognition of this objective coercion (over and above the subjective transition) led Bradley to describe inference as "the ideal self-development of an object taken as real". (*"Principles of Logic". Vol. II, p. 518*). And the admission of the same fact makes Russell declare that "the mind is as purely receptive in inference as common sense supposes it to be in the perception of physical objects". (*"Principles of Mathematics", p. 33*). Both of them are ahead of Hume who failed to notice this "objective" element of inference, even though Russell overshoots the mark by ignoring the psychological transition which is an essential aspect of the process.

7. But this "objective" relation which Bradley calls "implication" and Russell names "material implication" in his "Principles of Mathematics" are quite different. The "material implication" of Russell, shorn of its hopeless ambiguity, is a relation between two self-subsistent propositions that justifies us in asserting the implicate when the implicans has been asserted before. It is a fixed relation between two entities which are neither physical nor mental but "logical".

The implication of which Bradley speaks is not, however, a relation between propositions, but an "internal" relation between the subjects of judgments. All finite things to which our judgments refer are internally related with one another and so form a system. And because "you have a system, you can, starting at a given point within the system, develop this by a necessity which is the real intrinsic nature of your beginning. The necessity belongs to your special object itself, not although but because it is at the same time beyond your object, and because it qualifies at once that object and the whole system in which the object has its place". (*"Logic", Vol. II, p. 600*). Hence, for the Absolutist, "all inference", as Bosanquet says, "is within a connected system and consists in reading off the implications which this system, construed as one with the whole of knowledge so far as relevant, imposes upon some of its terms". (*"Implication and Linear Inference", p. 10*).

8. The question at once arises : Is a particular inference wholly valid or not ? Russell would promptly reply in the affirmative ; but the validating function of implication is merely assumed and not explained by his theory. He tells us simply that the self-subsistent entities called propositions happen to be so related that when our assertions of some of them are true, the assertions of some others are true as well. In that case, his position is no better than Hume's except that he shifts the locus of validity from a psychological habit to a "logical" necessity. But the necessity in question is a misnomer unless he is ready to reduce inference to formal consistency. He does it unconsciously in his earlier writings. But in one of his latest he drags down the propositions from their transcendent sphere and reduces them to psycho-physical states translated into sentences in some of our "assertions". (*Cf. "An Inquity into Meaning and Truth", pp. 212 f*). Inference is now admitted to be either deductive, or inductive, or even "analytic", but the theory of implication receives no consequent re-orientation.

Bradley and Bosanquet, however, are in no such predicament regarding the validity of inference. They try to explain how the premises contain the reason or justification of the conclusion, whereas the view of the mathematical logician cannot account for the use of the words "because" and "therefore" in a case of inference. But if Russell does little by way of explaining "the why", the idealists do a little too much. The premises of no single inference are, in their view, sufficient to justify the conclusion which requires an infinity of conditions. This is because the subject of the conclusion is related internally not only to those of the premises but to all other subjects in the system of knowledge. "The so-called premises by themselves certainly never are all that is really required for the conclusion". (*Bradley, op. cit., Vol. II, p. 601*). The "self-development" which is essential to inference is also fatal to its validity. This is admittedly a puzzle and "in the end indefensible", and yet the Absolutist claims that logic cannot do without it. He is consistent in holding that all judgments are radically infected with error and all inferences are invalid at the core, because reality is a system of reciprocally determining parts.

9. But is it safe to repose so much weight on the doctrine of internal relations and stake everything for its sake? The doctrine itself is never proved nor claimed to be an intuitive or self-evident principle beyond all proof and disproof. It is a deduction from the monistic thesis that reality is a unitary whole, though void, at bottom, of all distinctions and relations. But the thesis is an article of faith grasped in a flash of intuition or mystical vision.

Any serious attempt at the justification of this creed will involve, sooner or later, the view of causation as a universal and necessary relation among existents. But the Law of Universal Causation is neither intuitively certain nor empirically verifiable,—empirical sciences have of late grown suspicious of it. And the necessity supposed to characterise causation is, in the last analysis, an animal faith in the truth of the Inductive Principle which no one has succeeded in proving thus far. This is why the uniformity of nature is sought to be deduced from the Law of Identity which, as a formal principle, is analytic and necessary. But as soon as the attempted deduction is shown to be invalid, the whole structure of monistic metaphysics is faced with an imminent collapse.

In order to prove the doctrine of internal relations you have to assume the essential unity of all things; and this assumption can be justified only if the causal relation is necessary; and the necessity of the causal relation is deduced from the Law of Identity by applying it to the world of existents. But how can you assume that the causal relation is essential to the nature of a thing or is a necessary part of its nature? The whole argument is, then, found to be a glaring instance of *petitio principii* concealed by the amazing subtlety displayed in making the different tenets of idealism consistent with one another. But if, as we have tried to show, a vicious circle underlies the whole procedure, we need have no hesitation in rejecting its view of implication which, on Bradley's own admission, is "in the end indefensible".

10. The theory that we offer in its place recognises that the Russellian view of implication leads us nowhere. The conclusion of an inference not only *follows* the premises but also follows *from* them. It is not a mere coincidence that the premises and the conclusion stand or fall together. They have something in common which binds them in this intimate fashion. This common element is not, however, any dependence on the whole scheme of things with infinite ramifications, such as the idealist would have us believe. It is an *identity* in the propositions asserted by the constituent judgments of an inference. This identity is not bare identity but an identity in difference. If the premises and the conclusion had exactly the same reference, the conclusion would be a mere restatement of the premises. But if no inference is possible without a difference between the relevant references, there is no (validating) implication short of a common element between them. This common element should not be confused with an identical quality that may belong to more than one physical or mental existent. In other words, implication is not the same as the ordinary relation of similarity or resemblance that obtains among concrete objects.

Hume had reduced implication to a subjective necessity or habit, but both Bradley and Russell viewed it as an objective necessity grounded in the nature of the referents of the component judgments. And while Russell merely assumed this objective necessity to be present in subsistent entities, Bradley tried to justify it by resting it on the inter-connexions among concrete facts. Spencer comes nearest our position, in a sense, inasmuch as he considers similarity to be the basic principle of all inference. But similarity, too, is a purely objective relation with no necessary reference to the subject. Implication is, however, neither a purely subjective nor yet a merely objective relation. It is at once subjective and objective in its essence. For it is a specific relation between the structural aspects of the component judgments of an inference. These aspects have, on the one side, the referring mind of the person who infers and, on the other, the objects to which the relevant judgments refer.

A mere similarity between two things does not justify any inference regarding their nature. All existents are similar to the extent that they are existents; but we cannot draw all manner of correct conclusions from two judgments referring to existents. Implication may still be regarded as a sort of similarity, but it is a unique kind of similarity that obtains among propositions alone. This similarity is not secured by having even the same term or terms in different judgments. It lies in the references in their integral characters.

11. Every judgment, as mentioned earlier, is the assertion of a propositional reference. No two judgments, as distinct from sentences which symbolise them, can have exactly the same reference, for in that case they would be one and the same. Again, the restatement of a judgment in different words does not yield a fresh reference. When we describe implication as an *identity in reference*, we do not mean an *identity of reference*, i.e., an identity between two judgments in respect of their reference. An identity of reference involves a repetition of the same judgment, not a relation between three judgments in their structural aspects.

A relation between the references of two different judgments may be one of similarity in structure, or of difference in structure, but cannot be one of implication. It may be said that when two propositions are similar in structure, they must have a common or identical element. Implication, we reply, is not a qualitative identity, far less a numerical identity, but a referential identity which is a triadic relation where the terms are references or propositions. This is why similarity of reference would not be an accurate description of this unique relation.

But if similarity of reference is seen in its proper light, i.e., as a relation between two propositions as synthesised and a third, it would aptly represent implication which involves both identity and difference. This synthesis is not a mere addition or juxtaposition precisely for the reason that it unites the referential aspects of two judgmental acts. The result of this synthesis is a fresh reference which is asserted by the mind as soon as it has been recognised as such.

12. This fresh assertion is not only psychologically but also logically necessitated by the identity present in the synthesised references and the fresh one. If we have accepted the premises we cannot but accept the conclusion when its reference is found or shown to be involved in the synthesised references of the premises. If we fail to synthesise the relevant references, we cannot arrive at the con-

clusion and this is due to intellectual deficiency : if, on the contrary, we refuse to recognise the conclusion, we are intellectually dishonest. The necessity of the implicative relation is to this extent psychological or subjective. But it is at the same time objective, because when the premises are true, the conclusion which asserts their proper implicate must also be true. The identity in their synthesised and extracted references guarantees this. This is properly termed logical necessity and is based on the characters of the propositions concerned.

The necessity of the implicative relation, in other words, is derived from the nature of its terms of specific characters (viz., the propositional *references*). Hence we need not go beyond the assertions themselves in order to justify it by a doctrine which posits internal relations among the *referents* of those assertions. We have seen already that such a doctrine merely pushes the difficulty a step backward by projecting implications into the causal relations among existents. But if we fail to see the necessity involved in implication when it obtains among references, we shall also also fail to see it as involved in relations among referents. And, apart from this, many other difficulties are created by such projection of logical relations into physical and mental objects. All things, e.g., become states of one substance which is itself indescribable as void of all relations. Indeed, this game of shifting difficulties has a tendency to end in mysticism, as is proved in Bradley's case.

13. We cannot, on the contrary, rest content with describing implication in terms of the truth and falsity of the component assertions of an inference. Validity is not a mere coincidence between the truth of the premises and that of the conclusion. It cannot be equated, therefore, with a statistical average, as is done in the frequency theory, or regarded as an indefinable probability which cuts at the root of logical necessity. While the Absolutist theory of implication makes all validity rotten at the core, even though the implication involved is necessary, the ultra-empiricist theories make it a matter of probability whether definable or not.

We have tried to steer a middle course by proposing a theory that explains the necessity of the inferential process without resolving validity into degrees of more and less. Extremes, as is well-known, often meet and the above two views agree in admitting of degrees of validity. Our theory has no such consequence.

14. The conception of implication as similarity of reference settles the point at issue between Mill and Bradley regarding the function of the universal in inference. Mill contends that "all inference is from particulars to particulars", while Bradley urges that no inference is possible from mere particulars void of a universal element. Mill is right to the extent that an inference can have particular judgments for both its premises: and Bradley is equally justified in pointing out that mere particularity cannot have the validating function indispensable to inference. This function, however, does not require the assumption of a universal in the sense urged by Bradley: in fact, that makes all inference invalid at bottom. The common element that justifies inference is only an identity in reference which can be called a universal only in a Pickwickian sense. And it is not necessary, in the context of inference, to drag in the whole fabric of a metaphysical system. None the less, it remains true that Mill, as a disciple of Hume, failed to see that no inference can be drawn from particulars as particulars. In fairness to Bradley we must add that he did recognise that some inferences have particular judgments for both their premises. He is nearer the truth than Mill who had no idea of the function of implication in inference.

15. Implication, as thus interpreted, is the sole sufficing condition for the validity of inference. Both identity and difference function simultaneously and account for the novelty of the conclusion and its dependence on the premises. This is not to minimise the epistemic aspect of inference, but only consider it irrelevant to the determination of the validity of the process.

Our account is, therefore, substantially different from that of Johnson who thinks that there are also epistemic conditions of validity. ("*Logic*", *Part II, pp. 8 ff*). He includes the epistemic conditions chiefly with a view to saving syllogism from the *petitio*. But if he had paid sufficient attention to the implicative character of the *general* judgment, he would not have made this artificial division in the conditions for the validity of inference. A general judgment never asserts existence but only an implicative relation between two propositions. Such a judgment cannot be the result of enumeration, but is based on deduction or induction in the senses to be explained in the sequel.

It is the recognition of the irrelevance of epistemic factors to validity that made Russell go to the length of discarding what he calls the "psychological element" of inference. (*"Principles of Mathematics", p. 33*). But it is plain that the psychological aspect of transition, though not involved in validity, is an essential part of the concrete inferential process. We must not forget that an inference, just like a judgment, may be incorrect as well as correct. While the relation of correspondence makes a judgment true, the relation of implication makes an inference valid. And yet every inference lays claim to validity, just as every judgment "claims" to be true. This claim to validity is substantiated by the presence of an implication between the structural aspects of the inferential process.

16. Implication, considered in itself, is a relation between assertible propositions. Hence it can be represented by an implicative judgment when we want to assert such a relationship between three propositions. Thus if p and q together imply r, all the three being propositions, we can say "If pq, then r". This is an implicative judgment, and depends for its truth on the fact whether p and q together imply r. But this judgment should not be confused with an inference containing p, q and r. For in the above judgment we have not asserted p or q or even r, but only an implicative relation between them : whereas in our inference containing p, q and r, all the three propositions are actually asserted. Thus while the implication between pq and r is to be represented as "If pq, then r", the corresponding inference must be represented by "P and Q ∴ R", where P, Q and R are assertions containing p, q and r, respectively.

Russell comes in the end to realise that "there is a difference of some kind between an asserted and an unasserted proposition".For "when we say *therefore*, we state a relation which can only hold between asserted propositions, and which thus differs from implication". (*"Principles", p. 35*). He goes even so far as to say that inference is "the dissolution of an implication". (*"Principia", Vol. I, p. 9*). He means simply that "Wherever *therefore* occurs, the hypothesis may be dropped, and the conclusion asserted by itself".

The *therefore* is a distinctive mark of the inferential process, and it symbolises both the psychological transition and the logical necessity involved in it. The premises are not only a cause but also a *because*. The conclusion as a mental act *follows* the premises (which, too, are mental acts) : as containing the implicate, it *follows from* the premises asserting its implicants. Implication, it must be clear now, is an inalienable aspect of inference, though no inference *asserts* the implication which is its own structural element. Hence it would be wholly wrong to equate judgment with inference, or regard it as a "suppressed inference".

CHAPTER XIII

SIMPLE INFERENCE

1. Inferences may be classified into two broad groups, simple and complex. A simple inference is one in which both the premises are simple assertions; whereas, in a complex inference one at least of the premises is a complex or implicative assertion. Both the premises of a simple inference are thus particular assertions, and in this sense it is a case of "inference from particulars to particulars". The particulars in question, however, are not unique individuals void of all universal characters, but particular judgments in the sense explained earlier. If the referents of particular assertions were unique particulars having no common character, there would be no identity in reference and therefore no inference justified by them.

There are some inferences in which both the premises are particular assertions, and there are others where one at least of the premises is a general judgment. All general judgments are complex or implicative judgments of the conjunctive type. Hence any inference in which either premise is general belongs to the group of complex inference. A complex assertion, however, is not always general, and all complex judgments of the disjunctive type are particular. Thus our classification of inferences into simple and complex does not correspond to any classification based on the distinction between universal and particular judgments as premises. Minor divisions can no doubt be made in the groups of simple and complex inferences, but before entering into those details let us deal with the general nature of simple inference.

2. All the constituent judgments of a simple inference are simple assertions. The identity in reference, which is implication, requires that one at least of the premises should be affimative. For, if both the premises were negative, they would reject two propositions and we would not know whether there were any common element between their referents. In a negative judgment the mind is primarily in an attitude of rejection or disbelief, and hence there can be no question of synthesis between the referents of two negative assertions.

But without some sort of synthesis or comparison between the referents of two assertions, there is no possibility of the mind's passing from them to a fresh assertion based on them jointly.

The inclusion of the epistemic aspect in the inferential situation explains the general rule of all inference, viz., that one premise at least must be affirmative. Attempts have been made by Jevons and Bradley, e.g., to show that a conclusion may be drawn, in some cases, from two negative judgments, but their contention rests on a misunderstanding. We must on no account mistake the verbal form of a judgment for its logical form, though the two are often more or less similar. The example cited by Jevons runs as follows:

"Whatever is not metallic is not capable of powerful magnetic influence, (1)

Carbon is not metallic, (2)

Therefore, carbon is not capable of powerful magnetic influence (3)".—(*"Principles of Science", p. 63*).

Bradley admits that this argument "has a *quaternio terminorum* and is vicious technically", and yet "the fact remains" he says, "that from two denials you somehow have proved a further denial". (*"Logic", Vol. I, p. 278*). Our contention is that if we have at all proved a further denial, we must have seen the identity in reference between the premises and the conclusion. But this implication is not intelligible till we find that one of the premises, in the present case the first, is an affimative judgment. May we prove that "A is not C" by means of the assertions, "A is not B" and "B is not C"?

Inference is indeed a mental process which may be either correct or incorrect. But the correctness of the process demands that there be a specific relation among the component assertions. If there is no implication among the structural components, the inference is not correct: and if, even when an implication is present, the mind fails to notice it, the transition from the previous assertions to the later is no inference at all. Hence the consciousness of an implication is an indispensable condition of all inference, correct or incorrect. If the example cited by Jevons and justified by Bradley is a genuine case of inference, we must be aware of the implication that binds the conclusion to the premises. Now when we search for an identity in reference, and examine the constituent premises of the above inference, the first turns out to be a genuine affirmative judgment of the conjunctive type. All general judgments, we have contended, are, without exception, affirmative, (and we must on no account mistake general rules of prohibition for general judgments). Hence to look upon the first premise in the above example as affirmative is not either capricious, or "pedantic", as Bradley fancies. Not only the validity but the very possibility of inference depends on the assumption of an implication, and this requires one at least of the premises to be affirmative. Thus both the epistemic and the structural aspect of inference, when closely examined, reveal that one of the premises must be affirmative, and no other explanation is possible or even called for under the circumstances. Hence we conclude that from two negative premises there can be no conclusion: more strictly, two negative assertions cannot function together as premises in any inference. This may be looked upon as a general rule of all inference.

When both the premises are affirmative, so also is the conclusion. But if either premise is negative, the conclusion will be negative. Conversely, an affirmative conclusion can be drawn only when both the premises are such; and a negative conclusion requires a negative premise. These two conditions or rules may be summed up thus: only when either premise is negative the conclusion is negative; otherwise, affirmative. This rule, too, applies to all inference, and not merely to simple inference.

3. The first special rule of simple inference is that all constituent assertions of such an inference must emphasise the same categorial feature in their referents. It can be shown that all existent things as known by us have categorial features of all the seven kinds mentioned below. We may, however, pay more attention to one or more of these features to the comparative neglect of the other inalienable features. Hence different assertions emphasise different categorial features of existents. Now, the correctness of simple inference requires that its component assertions should be uniform in this respect: they should, all of them, refer to the same categorial feature in order to guarantee the identity in reference, or implication.

The categories, in our sense, are (i) Reference, (ii) Existence, (iii) Identity, (iv) Otherness, (v) Quality, (vi) Quantity, and (vii) Relation. Hence in a correct inference, all the assertions should emphasise any one of these categorial features. *Prima facie*, therefore, there should be seven forms of implication.

But actually, the implicative relation takes any of the four forms only,—Reference, Identity and Otherness being equally present in all assertions. All judgments are assertions of references and the referring character of a judgment does not admit of variety or degree. Hence there can be no sub-class of inferences in which implication is the identity in reference in *respect of reference*. If the component assertions of an inference had exactly the same reference (in respect of contents), it would not be a case of genuine inference at all. Implication, in other words, is identity *in* reference, not identity *of* reference. Judgments that assert an identical reference are equivalent, even though they differ in their verbal forms. This, incidentally, is the reason why the so-called immediate inference, in some of its forms, is not inferential at all.

Further, all judgments involve an identity in respect of their referents. This is the numerical identity which characterises every object of thought. It is, clear, that such identity cannot admit of variety or degree, and hence there cannot be different forms of assertions in respect of categorial identity. So, implication cannot assume a sub-form *in respect of identity*. From another point of view, implication is identity in reference, but not reference to identity, and we cannot have a sub-class of inferences where all the component assertions are references to identity, which is true of all assertions.

Similarly, the otherness which is categorial is simply numerical otherness, (not qualitative or quantitative or relational otherness or difference), and cannot therefore admit of variety or degree. Hence all inferences are similar *in respect of the numerical otherness* of their component assertions. From another point of view, implication is identity in reference and requires the component references to be partially different. But this difference is not the otherness which characterises a referent as distinct from all others.

Thus we are left with Existence, Quality, Quantity and Relation. All referents or objects of immediate knowledge,—and simple assertions are units of immediate knowledge,—differ from one another in respect of these four categorial features, and so also the judgments which assert them. Implication or identity in reference admits therefore of variety in respect of these four characters. Hence it manifests itself as *identity* in differing existential, qualitative, quantitative, and relaional references. Thus we have four classes of simple inference corresponding to these four.

4. When both the assertions, exemplifying the same category, are affirmative, the conclusion, too, is affirmative *accepting* a reference belonging to the same category. If, however, one of the premises is negative, the conclusion is, likewise, negative *rejecting* a reference belonging to the same category. A negative conclusion is thus the rejection of an implicate which has for its implicants two assertions, one of which emphasises the presence of a categorial character and the other its absence. An affirmative conclusion, on the contrary, accepts an implicate of which both the implicants emphasise the presence of the same categorial feature. Hence we have two sub-types in every class of simple inferences, one having for its conclusions assertions of *identity* and the other, assertions of *otherness*—all the component assertions falling under one and the same category regarding their referents. These general remarks, however, are fully intelligible only when we take up concrete cases of inference, and to these we must turn now.

5. *Existential Implication* :

(a) When both the premises are affirmative :

A is to the right of B,
B is to the right of C,
∴ A is to the right of C.

If r is taken to symbolise the relation 'to the right of', this inference can be put in the following form :

$$\begin{array}{l} A\ r\ B \\ B\ r\ C \\ \therefore A\ r\ C \end{array}$$

If r stands for any other similar relation, viz., 'to the left of', 'in front of', 'in the rear of', 'to the east of', 'to the south of', the inference would be equally justified, provided r is given the same value throughout a particular inference. We may, therefore, look upon r in such cases as symbolising *identity of relative position in space*.

It must be noted that r denotes a relative position between two terms (i.e. things), and it is absolutely necessary for the correctness of inference that the *sense* of the relation is the same in all the component assertions. Hence when one of the premises is negative, there should be corresponding changes in the positions of the different terms referred to in the assertions. Thus the symbolical form for all correct inference of this kind is "A r B & B r C, ∴ A r C". The negative assertion corresponding to 'A r B' is 'A r′ B', where r′ is other than r, is incompatible with it. Hence when the first premise of an inference is "A r′ B", the conclusion "A r′ C" is correctly drawn only when the second premise is affirmative and of the form "*C r B*" which is *symbolically* equivalent to "B r′ C". Again, when the second premise is "B r′ C" and the conclusion "A r′ C", the first should be "B r A" which is symbolically the equivalent of "A r′ B".

But, though the symbolical form "A r′ B and B r′ C, ∴ A r′ C" seems quite correct, it can guarantee the conclusion only when r′ is not thought of vaguely as a relation other than r, but as the exact opposite of r. But in that case it is a specific relation which can be expressed by an affirmative judgment, and thus all the component assertions reveal themselves as affirmative judgments. If, however, r′ indicates merely the rejection of a specific relation in the referent, the judgment is truly negative, and in that case we cannot have a correct inference in which all the component assertions contain r′ in their structural aspects. Hence we can have only two possible combinations of premises, one of which is negative, which can justify the conclusion. These are shown as follows :—

(i) A r′ B
C r B
∴ A r′ C

(ii) B r A
B r′ C
∴ A r′ C

As for concrete examples, we may cite the following :

(i) A is not to the right of B,
C is to the right of B,
∴ A is not to the right of C.

(ii) B is to the right of A,
B is not to the right of C,
∴ A is not to the right of C.

It is obvious that these are examples of correct inference, and it is equally obvious that the following example is correct *only when* "not to the right of"="to the left of" :

A is not to the right of B,
B is not to the right of C,
∴ A is not to the right of C.

Hence this last example should not be treated as a case of correct inference with two negative premises. Lastly, it is clear that any other spatial relation may be taken to be symbolised by r, and justify similar inferences,

6. In the above we have spoken only of spatial relations, but temporal relations also justify similar inferences. Thus we have the following examples of correct inference dealing with temporal relations :

(a) Both the premises affirmative :
A is prior to B,
B is prior to C,
∴ A is prior to C.
(b) One of the premises negative :
(i) A is not prior to B,
C is prior to B,
∴ A is not prior to C.
(ii) B is posterior to A,
B is not posterior to C,
∴ A is not posterior to C.

And the following example is correct, only when "not prior to"=either (i) "synchronous with", or (ii) "posterior to", in all the component assertions :

A is not prior to B,
B is not prior to C,
∴ A is not prior to C.

If, therefore, r stands for "not prior to", this inference can be symbolised as "A r B & B r C, ∴ A r C".—Thus we have the above combinations of premises in valid simple inferences based on spatial and temporal identities.

7. It may be said that we have illustrated spatial and temporal relations, but have designated these as inferences based on the category of existence and that this is open to question. The reply is that existence is but another name for spatio-temporality, and so the relevant category is not space alone, or time alone, but existence which contains these concepts as expressions of its partial characters.

An important consideration in this connection is that the correctness of inference cannot be secured by spatial, or temporal relations alone. All inferences concerning spatial relationships presuppose the identity of time, and all inferences dealing with temporal relations presuppose the identity of space. Thus the correctness of the inference "A r B and BrC, ∴ ArC", where r is the same spatial relation, requires that all these assertions refer to the same point of time, and when r denotes a temporal relation, it is necessary that all the assertions refer to the same block or portion of space.

The Theory of Relativity holds that space and time are relative to one another, as also to the movement of the observer and the system of existents in which he lives. There is neither any absolute space nor any absolute time. The distinctions between past, present and future are wholly relative, and so also the distinctions of direction and position in space. This is why we have contended that the correctness of an inference dealing with a spatial relation is partly based on the identity of a temporal relation, and *vice versa*. Consider, e.g., the following example:

A is to the right of B,
B is to the right of C,
∴ A is to the right of C.

The validity of this inference is not guaranteed merely by the identity of a spatial relation, but depends also on the identity of a temporal relation. All the component assertions must refer to the same time; otherwise the inference may be false. Similarly, the inference—

"A is prior to B,
B is prior to C,
∴ A is prior to C",

to be valid must refer to the same space; otherwise it would be incorrect.

But it should not be concluded from this that *all* inferences must involve reference to an identical system of existents in order to be correct. That is a metaphysical question to be discussed on its own account, but it does in no way affect the validity of any particular inference. And we have seen that such a position leads to the view that all inferences are partly incorrect. What we are concerned with is the identity in reference among the assertions making up a single inference, and this is provided for by our doctrine of categories.

8. *Qualitative Implication* :

(a) Both the premises affirmative :

A is dark (in complexion),
B is dark (in complexion),
∴ A and B are similar (in complexion).

This may be represented by symbols in the following manner :

A r Q
B r Q
∴ AB(q),—

where Q stands for quality, and r represents the relation of inherence, Q inhering in A in the first premise, and in B in the second premise.

The conclusion AB(q) denotes that A and B are similar in a specific manner : q being the determinable of which Q is a determinant.

(b) One of the premises negative :

When one of the premises is negative, there will be two different combinations of premises, and these may be represented by symbols thus :

(i) $A\ r'\ Q$
$B\ r\ Q$
$\therefore A\ B'\ (q)$

(ii) $A\ r\ Q$
$B\ r'\ Q$
$\therefore A\ B'\ (q)$

(i) A is not dark,
B is dark,
∴ A and B are dissimilar (in complexion)

(ii) A is heavy,
B is not heavy,
∴ A and B are dissimilar (in weight).

It would be wrong to suggest that in the above cases we have no inference at all. The conclusion is not identical with any one of the premises, nor is it a mere summary of the premises. It does give us some new information derived from the information contained in the premises. Hence each of the above examples is a genuine case of inference.

9. *Quantitative Implication* :

This is illustrated in very various ways. Let us take a few examples :

(a) Both the premises affirmative :

(i) A is as heavy as B,
B is as heavy as C,
∴ A is as heavy as C.

(ii) A is bigger than B,
B is bigger than C,
∴ A is bigger than C.

The symbolical form here is the same as that in the case of the category of Existence :

$A\ r\ B$
$B\ r\ C$
$\therefore A\ r\ C$

(b) One of the premises negative :

In this case there are two combinations of premises, as before :

(i) $A\ r'\ B$
$C\ r\ B$
$\therefore A r'\ C$

(ii) $B r\ A$
$B r'\ C$
$\therefore A r'\ C$

(i) A is not bigger than B,
C is bigger than B,
∴ A is not bigger than C.

(ii) B is as light as A,
B is not as light as C,
∴ A is not as light as C.

10. This kind of inference was recognised early by logicians, but they tried to reduce it unsuccessfully to the syllogistic form. Such reduction was, however, extremely cumbrous and unplausible. Our treatment needs no mutilation of the forms of assertions in order to fit them ino the procrustean bed of syllogism. Such inferences are so common in daily life that only the traditional logic, blind to the state of affairs around us, could fail to recognise their proper forms.

This strange anomaly is no doubt due to the Aristotelian dogma that all judgments are of the subject-predicate form asserting a quality of a substance or a class of substances. But the relational judgments are far more numerous and important, and even the subject-predicate judgment itself is a kind of relational judgment asserting a relation of inherence. Even the syllogism cannot be validated on the subject-predicate interpretation of all judgments. For the middle term in the "perfect figure" is subject in the major premise but predicate in the minor ; as such, it is now substantival and now adjectival in the same argument, and is not, strictly speaking, identical in both the premises. Hence syllogism can be saved only on an "intensional" interpretation of judgments, and that reduces the major premise (which is general) to a complex judgment asserting an implication between two propositions referring to relations of qualities in referents.

11. *Relational Implication* :

In a sense this form is illustrated in all the cases of inference mentioned above. Position and direction in space and time, Inherence, and Degree, which are the basis of implication in the different categorial propositions are themselves instances of Relation. This is not in the least surprising when we remember that all the categories are interrelated. None the less, there are certain judgments which may be regarded as relational in a general way. It is necessary for the validity of inference that the same relation should be present in all the component assertions :—

(a) Both the premises affirmative :

(i) A is a brother of B,
B is a brother of C,
∴ A is a brother of C.

(ii) A is the father of B,
B is the father of C,
∴ A is the grandfather of C.

(iii) A is a friend of B,
B is a friend of C,
∴ A and C have got a common friend.

(b) One of the premises negative :

(i) A is not a sister of B,
B is a sister of C,
∴ A is not a sister of C.

(ii) A is a parent of B,
B is not a parent of C,
∴ A is not a grandparent of C.

(iii) A is a friend of B,
B is not a friend of C,
∴ A and C have no common friend in B.

The following examples may be brought under Relational Implication though some may classify them under Qualitative, or Quantitative Implication :

(i) A is equal to B,
B is equal to C,
∴ A is equal to C.

(ii) A is not equal to B,
B is equal to C,
∴ A is not equal to C.

12. Before concluding this chapter we may add a few words on the apocryphal process known as *Immediate Inference*.

Conversion in the case of general judgments is invalid because it fails to realise their implicative character. For "All S is P" is equivalent to "If S, then P" and does not assert the existence of either S or of P: but the converse of "All S is P" is "Some P is S" which asserts the existence of P. "All S is P" may be said to assert existence only when it is the result of complete enumeration and is therefore a particular judgment of the collective type. But the conversion of a particular assertion is only a verbal change and mistakes a sentence for a proposition. "Some S is P" and "Some P is S" are indeed two different sentences, but they assert the same reference and are therefore equivalent. Obversion is too clearly a verbal manupulation to need further comment. Thus both Conversion and Obversion must be banished from the field of inference, and with them go the other forms of "eduction", viz., Contraposition and Inversion.

Inference by Opposition is the result of a fundamental error regarding the nature of inference. The conclusion of an inference is not gathered elsewhere but is extracted solely from the premises, the information with which we start. The conclusion of a so-called inference by opposition must, however, be supplied from elsewhere. The process is further guilty of the intrusion of psychological factors into the sphere of validity, thereby making inference a matter of certainty or doubt as occasion demands. It shares, too, in the defects of conversion by mistaking the nature of the general judgment. About the other forms of immediate inference in which textbooks indulge to the delight, and more often, to the disgust of beginners, the less said the better.

Lastly, all the varieties of this so-called inference are, of course, wanting in the implicative relation which alone connects judgments by way of inference. For implication is an identity in the references of distinct assertions and not an identity of reference (or identical reference) which makes two assertions exactly equivalent. The distinctive mark of immediate inference lies in the singleness of its premise and a single judgment could "justify" another only when they asserted the same proposition expressed in different words.

Hence those forms of immediate inference which are not wholly incorrect are but cases of translation or paraphrase. Those who would recognise the nature of the different forms of judgment and yet vindicate the inferential character of the alleged process fail to distinguish meaning from implication. Meaning is an integral reference whereas implication is a relation among distinct though similar references. The former justifies the verbal transformation of an identical assertion, and the latter justifies the mental transition from two assertions to a third. Short of three assertions related in a unique way we have no process which can claim the title of inference.

CHAPTER XIV

COMPLEX INFERENCE

1. A complex inference is one in which one at least of the premises is a complex judgment, either conjunctive or disjunctive. But cases in which both the premises are complex are neither very common nor so important. So let us first take up for consideration those inferences in which one of the premises is complex. Of such inferences those that have a conjunctive premise may be termed conjunctive inference, and those that have a disjunctive premise may be called disjunctive inference. We shall give no distinctive names to the complex inferences in which both the premises are complex, being either (i) both conjunctive, (ii) both disjunctive, or (iii) one conjunctive and the other disjunctive.

(1) CONJUNCTIVE INFERENCE :

A conjunctive inference is one in which one of the premises is a conjunctive judgment and the other a simple one, the conclusion being another simple judgment. The first premise asserts an implicative relation between two propositions, the second premise asserts the implicans and the conclusion asserts the implicate. The complex premise being conjunctive is always affirmative, but the simple premise may be either affirmative or negative. In a valid inference of this type, the second premise either (i) affirms the implicans, or (ii) denies the implicate, and the conclusion (i) affirms the implicate and (ii) denies the implicans, respectively.

Thus there are two rules of correct inference here :

(i) To affirm the implicans is to affirm the implicate :

and

(ii) To deny the implicate is to deny the implicans.

These two forms may be symbolised thus :

(i) If p, then q
P
∴ Q

(ii) If p, then q
Q′
∴ P′,

p and q being propositions of which P and Q are affirmative, and P′ and Q′ negative assertions, respectively.

These two forms of inference have been recognised in the traditional logic, but their importance as well as true character are hardly realised by many. The syllogism of traditional logic, shorn of its defects, reappears as a particular form of conjunctive inference. The complex judgment which figures as the first premise in a conjunctive inference is often a general judgment asserting a relation of implication. Any instances of the conjunctive judgment which do not seem to assert an implicative relation between its structural factors are no judgments at all but optative sentences expressing wishes or desires of the speaker. Genuine conjunctive judgments are expressed by indicative sentences. They assert a relation of implication between their structural factors which may refer to existents or subsistents. The subsistential judgment is true only when there is a relation of ground and consequence between its referents; while the existential judgment is true when there is a causal relation between its referents.

2. Deduction and induction are not inferences in our terminology: they are but methods of establishing subsistential and existential judgments, respectively, of the conjunctive type. Deduction, in this sense, is essentially obedience to the "Laws of Thought", and induction consists in the discovery of causal relations.

A subsistential judgment of the conjunctive type is the result of a deductive process which consists in merely analysing abstractions in conformity with the Laws of Thought. Hence it is but another name for the self-consistency of thought. It cannot yield "synthetic" or factual but merely "analytic" or verbal judgments. We may construct systems of such judgments which are examples of formal consistency. The value of such a system depends on the nature of its initial abstractions. It has an intrinsic value in the sense that it develops our powers of analysis and abstract thinking, and is the source of genuine pleasure to a large number of speculative persons. But its extrinsic value lies in its conformity to the world of existents and application in that world.

For factual judgments, however, this criterion of self-consistency is not enough. True, factual judgments form a system and are thus consistent with one another, but such consistency would not account for their truth. We have to rely on verification by means of basic assertions in order to determine their final correspondence to existents. All verification, however, falls short of demonstration, and hence even a system of factual judgments is merely contingent.

Factual judgments of the conjunctive type depend for their truth on causal relations among existential referents. The relation of ground and consequence among abstractions may be termed "consequential": it is necessary and depends ultimately on the self-consistency of thought; while the relation of cause and effect among existents is "sequential" and merely contingent. The causal relation is sequential, though every sequential relation is not causal. The sequential relation which is causal is unvarying, and may be further characterised as spatio-temporal continuity between two events of specific characters. The specific characters in question are the universals present in the classes of events: and though the universals considered by themselves are pure abstractions, the causal relation is not a relation between abstractions, because it involves spatio-temporal continuity between two distinct events which are concrete existents.

It is because many philosophers have, for reasons which need not be discussed here, looked upon space or time as unreal that they have ignored the spatio-temporal continuity which is an essential aspect of the causal relation and thereby identified it with the relation of ground and consequence for which space-time is quite irrelevant. This is true, e.g., of the Spinozistic reduction of causes to grounds. Again, others have found it difficult to accept continuity as an objective fact, because there is no atomic impression corresponding to it, and so they have identified the causal relation with uniform succession. This is substantially the view of Hume, except that he discovers a subjective necessity (supposed to accompany our knowledge of causation) in a habit of expectation. Mill tried to steer a middle course between Spinoza and Hume in this respect, and so spoke of the cause as the unconditional antecedent of the effect. But on such a view the cause tends to become the whole state of the universe at a particular moment and to deserve condemnation at the hands of Russell. Still others have supposed that the causal relation, though not identical with the relation of ground and consequence, includes "implication" as part of its nature. But this is due to a confusion between propositions and their existential referents. An implicative judgment of the existential form, if true, has for its referent a relation of cause and effect between existents; but the causal relation itself is not properly designated as an implication which obtains among propositions only. It is because both the consequential relation of ground-and-consequence and the sequential relation of cause-and-effect lead to inference that both of them have been identified with implication.

The real reason for the reduction of causation to implication is presumably the conviction that unless the causal relation involved implication, it could not guarantee the truth of the conclusion in causal inference. But such a conviction rests on a misunderstanding. The "how" or manner of operation of the causal relation may be explained by us, but its "why" is in the end beyond all explanation, because the causal relation obtains among existents. The world of existents does not, like the world of subsistents, depend on the self-consistency of thought. It is the constant endeavour of thought to *correspond* to it. The "moving why" supposed to lurk in the happenings of Nature is intelligible only when we accept teleology as a cosmic principle. But the belief in cosmic teleology is guilty of hasty generalisation based on false analogy. For a detailed discussion of the question we must refer the reader to our "*Causality in Science and Philosophy*".

3. We may, accordingly, draw a distinction between existential and subsistential judgments of implication. The symbolic forms for these are, respectively, "Whenever A is B, C is D" and "If A is B, C *must be* D". It is the business of deduction to *deduce* the latter type of judgments from abstractions in obedience to the Laws of Thought; and it is the business of induction to "*induce*" the former type by putting questions to Nature in the form of experiments. The pure sciences are engaged in the work of deduction, while the applied sciences are employed in "inducing" generalisations based on the discovery of causal relations. We need not discuss here to what extent any particular science is pure or applied in the above sense. It is also idle to speculate, in the present state of Quantum Physics, whether the law of universal causation will be discarded, at some future date, as *definitely* against empirical evidence. (*Cf.* "*Causality in Science and Philosophy*"). For the moment it is quite safe to rely on it as a valid postulate and find in it the ultimate basis of our conjunctive judgments of the existential type. Lastly, it is worthy of note that neither deduction as the method of formulating subsistential judgments, nor induction as the method of forming general judgments of the existential type belongs to logic. Logicians would have been spared much trouble and confusion if they had realised that inductive methodology is a business of special scientists, just as deduction is

the province of pure mathematicians. Logic is not concerned with the actual deducing or "inducing" of general judgments, but only with their role in inference.

Thus we may distinguish between two types of conjunctive inference, without committing ourselves to the view that they are different in respect of the implicative relations between their premises and conclusions. The only difference between them, from the logical stand-point, lies in the nature of their *premises*: and since we have recognised the distinction between simple and complex inference, there is no reason why we should not distinguish between the two types of the latter. If we remember the exact senses in which the terms "deduction" and "induction" are to be used, we may designate these two types of inference as deductive and inductive.

(3) When both the premises are affirmative:
(i) Deductive:
If A is B, C must be D;
A is B;
∴ C must be D.

If any plane figure is a triangle, the sum of its angles must be two right angles;

This plane figure is a triangle;
∴ The sum of its angles must be two right angles.

(ii) Inductive:
Whenever A is B, C is D;
A is B;
∴ C is D.

Whenever the button of an electric fan is pressed, (both the fan and the line being in proper order), its blades begin to rotate;
Now the button of a fan is pressed, (both the fan etc.);
∴ Its blades will begin to rotate.

(b) When the second premise is negative:
(i) Deductive:
If A is B, C must be D;
C is not D;
∴ A cannot be B.

If a triangle is isosceles, then two of its angles must be equal;
This triangle does not have two angles equal;
∴ It cannot be isosceles.

(ii) Inductive:
Whenever water reaches the temperature of 32°F., it freezes;
This water is not frozen;
∴ It has not reached the temperature of 32°F.

4. We have illustrated the two kinds of conjunctive inference when both the premises are affirmative as also when one of the premises is negative. It will be seen that the *syllogism* of traditional logic, which requires a "universal major premise", is really the conjunctive inference in both its forms (deductive and inductive). It is, however, far from our intention to work out a duplicate for syllogism: There is no exact correspondence between syllogism and conjunctive inference, and that for an obvious reason. Syllogism in its traditional, i.e. proper, form and interpretation is essentially unsound. Hence there can be no question of our attempting to show that conjunctive inference is an exact counterpart of syllogism in a new costume. We may mention one important point of difference: the minor premise in a syllogism may be either genreral or particular; but the second premise of a conjunctive inference is always a particular judgment, and so also is the conclusion. When the second premise, too, is general, all the component assertions of the inference are general and this may be illustrated as follows:—

If A is B, C is D;
If C is D, E is F;
∴ If A is B, E is F.

Clearly, there can be no negative premise or conclusion in this form of inference. It is equally clear that the component assertions may be either existential or subsistential. This form of inference differs from all other forms considered thus far in that its conclusion is an implicative judgment. As such it has an important function in deductive and inductive sciences which are concerned with the establishment of judgments of implication.

The conditions for the correctness of this type of inference are that (i) the second premise should have for its implicans the implicate of the first, that (ii) the conclusion should have for its implicans the implicans of the first and for its implicate the implicate of the second, It is perhaps superfluous to add that this type of inference should not be called "generalisation", even though its conclusions are always general judgments. The term "generalisation" is a proper synonym for "induction" which consists in the establishment of a general judgment on the discovery of a causal relation among existents.

5. It may be objected that our use of the term "inductive inference" in connexion with conjunctive inferences of the existential type is unjustifiable, because such inferences are essentinlly deductive, and that the general premise of such an inference is the conclusion of an inductive inference. We are aware of the usage, and we have also said that the terms "deductive" and "inductive" refer to the nature of the *premises*, not of the inferential process which is the same in all its forms. Our contention is that "induction" in the accepted sense is no inference, but only a method of establishing general judgments of the causal type by the help of inference, simple as well as complex. The so-called "inductive leap" in which the essence of inductive inference is said to lie is justifiable on the assumption of a causal relation and justified by the discovery of such a relation. But the methods for the discovery of causal relations are at bottom applications of simple and complex inferences explained above. The inductive leap itself is no inference or judgment but a mere assumption, and as such cannot be regarded as a distinctive form of inference.

If, on the contrary, it could be shown that the inductive leap is no supposal but an epistemic transition from "some" to "all", it would doubtless be inferential because the data are particular judgments and the conclusion is an implicative judgment. But do the premises justify the conclusion? Any attempt at justification must include the Inductive Principle among the premises. The first premise will be the Inductive Principle itself, and the particular judgments supposed to lead to the conclusion are really combined to form the second premise which, though collective, is a particular judgment. And the conclusion is a general judgment asserting a causal relation. Let us put it symbolically thus:

If in some cases A is followed by B,
then in all cases A will be followed by B;
In some cases A is followed by B;
∴ In all cases A will be followed by B.

And the conclusion is equivalent to "A is the cause of B". But this is an example of conjunctive inference. The inclusion of the phrase "in all cases" in the conclusion does not suggest any "inductive leap", because the conclusion merely asserts the implicate of the first premise. If there is any leap, that is in the first premise itself. But the first premise is not the result of any induction; it is either the Inductive Principle itself or a deduction from it.

As for the Inductive Principle itself, it is sufficient to remark that it is a postulate that cannot be deduced from any of the Laws of Thought. The principle itself is assumed in all our activities, and even lower animals manifest a tendency which may be said to be an implicit faith in it. Hume had traced causal inference to a habit of expectation itself inexplicable. The animal, however, does not behave on an explicit recognition of the Inductive Principle; he is unaware of the causes of his belief in the joint occurrence of events. "When, in the course of evolution, he becomes an inductive logician, he notices the causes and says they are grounds". Since they are not, he might just as reasonably accept the judgment asserting a particular causal relation as basic: for it is more likely to be true. "In this respect therefore", Russell tells us, "the animal is to be preferred to the logician". (*"An Inquiry into Meaning and Truth", p. 244*). This is a partial vindication of Hume.

6. The following remarks may be made on the correctness of the *inductive procedure*. We have argued that the causal relation, though sequential, is not merely so. It is inferred from the uniform succession of two events of a certain type. The inductive methods of Mill and others assume that the uniformity of succession is a sufficient guarantee of the causal relation between two events. But Mill had the candidness to recognise that the methods are not free from some defect due to the plurality of causes. Critics have pointed out that the plurality of causes is not a sound doctrine and hence it cannot vitiate the methods themselves. But they forget what was dimly recognised by Mill: the plurality of causes is a real handicap if you regard uniformity of succession as an adequate mark of the causal relation. This is why he defined "cause" as the unconditional antecedent of the effect, and differed from Hume who virtually admitted that the "constant union........constitutes the relation" of cause and effect. (*Cf. Green & Grose edition "Treatise", Pt. III, Sect. XV, p. 467*). Mill, however, could not reconcile his denial of necessity with the admission of unconditionality.

Russell, who also refuses to admit any necessity in the causal relation, is therefore more consistent in saying that unless we are ready to identify the cause of any event with the whole state of the universe at the previous moment, we must define "causation" as almost unvarying, not invariable, succession. A causal law, he says, may have exceptions, and if we want an invariable relation, we must replace causal laws by mathematical formulae. Russell differs from Hume in insisting that the causal relation is not constituted by the uniformity of succession. But Hume had hinted at this, and Russell does not tell us what the precise nature of the relation is. He accepts the former's view that the relation is merely the expectation of a fresh sequence generated by the experience of regular succession. This expectation he calls inference, as Hume had done before him, and rests it on the Inductive Principle "which, if it is true, must be an *a priori* logical law, not capable of being proved or disproved by experience". (*"Our Knowledge of the External World", p. 225*). He formulates the principle thus: "If, in a great number of instances, a thing of a certain kind is associated in a certain way with a thing of a certain other kind, it is probable that a thing of the one kind is always similarly associated with a thing of the other kind; and as the number of instances increases, the probability approaches indefinitely near to certainty". And it is "the principle of induction, rather than the law of causality, which is at the bottom of all inferences as to the existence of things not immediately given". (*Op. cit., p. 226*).

But it seems clear that the inductive principle as formulated by Russell really assumes a view as to the nature of the causal relation. "Associated in a certain way" means related by way of causation, and the causal relation must therefore be held to be logically prior, if we want to justify the expectation or inference (call it what you please) as to a fresh succession on the basis of our previous experience of constant sequence. Russell has not, after all, improved upon Hume.

7. Ayer has contended that the "demand for the justification of causal inference is itself unwarrantable". (*"Foundations of Empirical Knowledge", p. 189*). This demand is unwarrantable because "it involves the application to inductive reasoning of a standard of rationality that is appropriate to deductive reasoning".

But our point is that if we cannot speak of the justification of an inference, no good purpose is served by calling it inference at all. Ayer's position is a virtual restatement of Hume's view that causal inference is but an expectation based on previous experience. Others, however, do not seem to be satisfied with such a result and hence there has been more than one attempt to justify the Inductive Principle on which all generalisations ultimately rest.

8. It may be noted that the causal relation is neither constituted nor justified by regular sequence. The relation holds between two events, even though they are members of two distinct classes. As Alexander says : "The causal relation is not the repetition of the pair of similar events". (*"Space, Time and Deity", Vol. I, p. 294*). The truth is, without the repetition of pairs of similar events, we cannot discover the causal relation between them, inasmuch as any and every antecedent is not the cause. But regularity of sequence is not even an adequate mark of causation. "There are many cases", as Broad says, "where we should admit regular sequence and *unhesitatingly deny* causation ; though there are perhaps no cases where we can *unhesitatingly assert* causation in addition to regular sequence". (*"The Mind and its Place in Nature", p. 453*). The distinction, therefore, between the regular sequence which is causal and that which is not, must lie in something else of which the regularity is a consequence.

Joseph argues that the cause and the effect are "internally" related in the sense accepted by Bradley and others. "A thing, to be at all, must be something, and can only be what it is. To assert a causal connection between *a* and *x* implies that *a* acts as it does because it is what it is ; because in fact it is *a*. So long therefore as it is *a*, it must act thus ; and to assert that it may act otherwise on a subsequent occasion is to assert that what is *a* is something else than the *a* which it is declared to be. (*"An Introduction to Logic", p. 408*). For him, therefore, the Inductive Principle is properly expressed in the form "The same cause gives rise to the same effect", and it is a deduction from the Law of Identity.

He forgets that the Law of Identity is only a formal ideal and if applied to concrete things begs the whole question at issue. In order to deduce the necessity of the causal relation from the identity of the cause, you cannot start with the assumption that the causal relation is necessary and internal, so that this relation constitutes part of the nature of the cause. This is not to deny that the nature of things related as cause and effect is relevant to the causal relation between them. What we question is the soundness of the procedure to deduce the effect and the causal relation from the nature of the cause taken by itself. Against such a position Hume's objections are yet unanswered. No amount of logical analysis can discover the effect in the cause. The Inductive Principle is not a consequence of the formal Law of Identity which is wholly incorrect if applied to the world of changing events.

9. The causal relation holds between two existents which are unique in respect of their existence. Hence there can be no question of the repetition of a pair of events as events or existents. Instead of speaking therefore of "same cause, same effect", we should rather say that "similar causes have similar effects". In the causal relation between two concrete events we have spatio-temporal contiguity, and this fact was recognised by Hume. "The cause and the effect", as he says, "must be contiguous in space and time". (*op. cit., p. 466*).

But we urge that the relation is not merely one of contiguity or proximity but of *continuity*. Hume could not admit any continuity between the cause and the effect because of his atomistic psychology in which there was no room for an "impression" of continuity. He failed to see that continuity, contiguity and resemblance—all sail in the same boat. Moreover, not only are space and time, as the Relativity Theory says, inseparably bound up with one another, but neither of them, even taken by itself, is a collection of discrete parts. And the Gestalt Psychology has made it abundantly clear that we are always aware of things in relation, and that continuity is as truly apprehended by us as any other relation. It is a mis-statement of facts to say that when we are aware of an instance of causation we perceive nothing but a sequence or succession of discrete events. We do not intend to say that this is always the case : our point is that we do apprehend the relation of continuity (that obtains between cause and effect) in some instances of causation. In other cases we make inferences in the light of previous experience. But this experience does not consist in the perception of merely regular sequence between pairs of similar things.

The causal relation is a spatio-temporal relation between existents; it is not, however, a relation between bare events or points of existence. Concrete things are qualitied existents, and any resemblance or similarity that obtains among things is due to the sameness of some of their qualities. The universal must be regarded as objective in the sense that it is an inalienable feature of concrete existents. Hence, just as similarity is based on partial identity in respect of qualities or character, the causal relation is not wholly indifferent to the nature of things so related. Joseph is wrong in regarding causality as a consequence of identity, but he is dimly aware of a vital truth ignored by many of his critics. The causal relation holds between events having specific characters; in other words, it is a relation between qualitied existents. A specific causal relation cannot therefore be equated with spatio-temporal continuity or continuity between bare events. None the less, it cannot be reduced to another quality and deposited into the nature of the cause supposed to be eternally the same. To do so would be to repeat the mistake of Leibniz who was obsessed by the Aristotelian theory of judgment. It is due to the influence of Hume that the relation between the concepts of substance and causality has been reversed, so that the substance tends nowadays to be conceived in terms of causal relations. But really the two concepts are interrelated: a substance is a concrete existent which occupies a portion of space-time and thus suffers change in respect of its states and qualities and relations. It is not an atomic bit of reality, but is related with other existents with more or less similar characters and relations. When two concrete existents are related in such a way that there is spatio-temporal continuity between them, the earlier is called the cause and the later the effect. The cause is prior to the effect in time and near it in space.

Moreover, experience reveals that many existents are similar in respect of their qualities, and they are regarded as belonging to the same class. The qualities in respect of which they are similar are abstracted in thought and held to stand for the class-essence or universal. But our actual observation is limited, and so the class is expanded ideally by including in it any other existents that may possess the class-essence. Now, it is found that two classes of existents are correlated in such wise that whenever a member of the one class occurs, it is immediately followed in a contiguous space by a member of the other class. Two particular members, one from either class, are related as cause and effect because of spatio-temporal continuity between them. And from the observation that such correlation is uniform or unvarying, we conclude that it is invariable or "necessary".

10. But the causal relation would be necessary only if we could show either the relevant universals as necessarily related, or the spatio-temporal continuity in question as a necessary relation. But there is nothing in the spatio-temporal continuity of one class of causal relations to distinguish it from another class, because space and time

considered without reference to concrete events are uniform in character.

Kant tried to prove the necessity of our employment of the causal category on the ground that causality in the sense of substantial continuity is the empirical replica of the continuity of pure or absolute time which can never be perceived. (*Cf. Paton, "Kant's Metaphysic of Experience", Vol. II, pp. 221 ff*). Apart from the fact that such a proof is Scholastic (and not "transcendental"), all causality can be identified with substantial unity only when the whole world is viewed as one substance. This must be shown to be a condition of experience (and not assumed in Spinozistic manner), and the unity and continuity of a substance itself must be proved on independent grounds. Neither Kant nor any one else has yet proved it, and substantial unity is nowadays explained in terms of causal relation between states.

We may note in passing that the validity of the law of causality has been questioned in Quantum physics partly because of our failure to detect spatio-temporal continuity between the different states of the same electron. This failure is indeed attributed to the failure of our predictions as to the position and velocity of an electron. But it is clear that if we could follow its continuous movement, no such difficulty would occur at all. As matters stand, the identity of the moving electron (and we know of no other) is itself a matter of conjecture. Our inference as to the identity of macroscopic objects is in a better position, because they, unlike the electrons, are not exactly similar. Again, for a more adequate discussion we must refer to our "*Causality in Science and Philosophy*".

11. As mentioned above, the causal relation, in particular cases, may also be shown to be necessary if we can prove a necessary connexion between the universals involved. This would be the case when the thought of the absence of their correlation would involve self-contradiction. But as a matter of fact, we think easily of the opposite of such a correlation and it cannot therefore be regarded as necessary.

It may be urged that the relation may be necessary if it is implicative, and the opposite of an implication involves self-contradiction. But this must be proved, not assumed, as is done by thinkers who vaguely think of causation as involving implication.

(*cf. Ewing, "Idealism", pp. 163 ff*). True, causal *inferences* involve implication, because all inference involves this relation; but we must prove, not assume, that our expectation of one event coming after another in a specific case is at all inferentially valid. Hence the supposed validity of a causal inference cannot be made the basis of the contention that causation involves implication. This is the final reply to those who regard specific causal relations as necessary.

12. Causal inferences are justifiable, if at all, on the assumption of the validity of the inductive principle. Particular cases of expectation of the occurrence of the effect of a specific type, when the cause of another specific type has made its appearance, need not be, and in fact are not, based on the Inductive principle. But when we have any doubt, or when any one questions the reasonableness of our expectation, we reply that the event expected is the effect of the event just perceived and so must make its appearance. Our argument takes some such form :

"If A and B are causally related, A must be followed by B :
A and B are causally related :
∴ A must be followed by B".

The inference seems to be valid; but an analysis of the second premise shows that its assertion depends on the assertion of the conclusion. The second premise assumes the truth of the conclusion. How do we know that A and B are causally related? The causal relation is one of spatio-temporal continuity, and unless and until B has actually occurred, we cannot say that A is the cause of B. It will be replied that B is not a wholly unique event : the very fact that we can speak of it as B shows that it is a member of a class of which other members have come within our observation. Hence the argument will take the following form :

"If *a* (which is a member of the class A) occurs, it is followed by *b* (which is a member of the class B) :
But *a* has occurred;
∴ It will be followed by *b*".

The truth of the conclusion depends on that of the premises. The second premise can be easily verified : but what about the first? It simply says that each member of the class A is the cause of a member of the class B. But how do we ascertain its truth? If the judgment is formed on an observation of regular sequence between such members, it must either make an undue assumption, or be a collective judgment referring only to the cases of sequence observed. Hence the justification of the causal inference, if it is held to be inference at all, requires the first premise to be a general or implicative judgment asserting a relation between two characters or universals.

This would render plausible the view that causality is either the same as, or involves, implication. But it is clear that causation involves succession in time and cannot therefore be identical with the relation of ground and consequence which holds among abstractions. In what sense then can we say that causation includes implication which is a relation between propositions? Propositions are aspects of judgmental acts whereas causation is a relation between existent facts. The implicative judgment that is the statement of a causal relation asserts an implication between two propositions. The referents of these two propositions are not, however, bare universals or abstractions, but two existents characterised by two universals: they are concrete events of certain types. It would be wrong to regard them as bare universals and argue that the implication asserted is an objective fact and is a relation of ground and consequence between two universals. None the less, some such assumption lies at the bottom of all contention that causation involves implication and that the cause is also a ground. That is a case of wishful thinking for which there is not the least justification.

Hence the existential judgment is different from the subsistential in important respects. "If A has occurred, B will occur in quick succession in a contiguous space"—this is the typical form of an implicative judgment of the existential type. This merely says that A and B are causally related: that when the assertion of the implicans is true, the assertion of the implicate will be true as well. The truth of the judgment depends on the fact whether there is a causal relation between them or not. If we want to *justify* the judgment, we cannot say that A and B are causally related, for that is a restatement of the same judgment. The only justification depends on the Inductive Principle, and the judgment in question will be true when both the Inductive Principle and the particular judgment which sums up the results of our observation of the regular sequence between A and B are true. The Inductive Principle, however, is a postulate which cannot be conclusively verified by experience. Hence, though our causal inferences can be justified, their conclusions cannot be said to be necessary in the sense the conclusions of deductive inferences are.

This is not, however, derogatory to the nature of inductive inference, but is closely bound up with its valuable role in the world of experience. Necessity reigns supreme in the region of abstractions, but the realm of concrete existents is beyond her sway.

13. It is clear, then, that the *causal* inference should not be regarded as a mere expectation or as a blind faith in the happenings of nature. We, as rational beings, try to justify our expectation by invoking the Inductive Principle which becomes the first premise of a *complex* inference. This inference does not differ essentially from what is known as deductive inference in which the first premise is an implicative judgment of the subsistential type. In so far as both of them are inferential processes, they are fundamentally the same. The main difference lies in the first premises, one of which is sequential and the other consequential. A consequential judgment is necessary because "analytic": it is a consequence of the self-consistency of thought. But a sequential judgment is contingent since it is "synthetic", asserting a relation between concrete existents. Hence it is that we can be absolutely certain about the truth of the conclusion of a valid deductive inference, whereas no such certainty is available in the case of the conclusion of an inductive inference. But so far as the nature and validity of inference are concerned both the processes are the same.

(2) DISJUNCTIVE INFERENCE :

14. The second type of complex inference that we have to take note of is disjunctive inference. In it the first premise is a disjunctive judgment and the second premise is a simple one and the conclusion as well is simple. The disjunctive judgment is, as it were, double-edged: it makes an alternative assertion as well as a disjunction. Hence it partakes of the characters of both affirmation and negation. This is why the second premise in a disjunctive inference may be negative as well as affirmative. Hence we may have two forms of disjunctive inference, viz. :

(i) A is either B or C;
A is not B;
∴ A is C.

(ii) A is either B or C;
A is B;
∴ A is not C.

O.P. 128—32

(i) He is either a fool or a knave;
He is not a fool;
∴ He is a knave.

(ii) He is either a saint or an impostor;
He is a saint;
∴ He is not an impostor.

Most logicians are reluctant to admit the second form. But their reluctance is largely due to a confusion between truth and validity. We have already discussed the nature of the disjunctive judgment, and our view on the nature of disjunctive inference follows from that. Hence no detailed discussion is called for here. Both the forms of inference stated above must be regarded as correct. The rules of such inference are as follows:

(i) To affirm either alternative is to deny the other; and

(ii) To deny either alternative is to affirm the other. The conclusion will be true when the inference is correct and its premises are true. But this is not a peculiar feature of disjunctive as distinguished from other types of inference.

15. We may briefly refer to complicated forms of disjunctive inference which are not so common. The first premise may be disjunctive and contain more than two alternatives, while the second premise may be another disjunctive judgment, or a combination of simple negations: e.g.,

(i) A is either B or C or D;
A is either B or C;
∴ A is not D.

(ii) A is either B or C or D or E;
A is neither B nor C or D;
∴ A is E.

(iii) A is either B or C or D;
A is B;
∴ A is neither C nor D.

(iv) A is either B or C or D;
A is not B;
∴ A is either C or D.

(v) A is either B or C or D or E;
A is neither B nor C;
∴ A is either D or E.

(vi) A is either B or C; or D or E;
A is either B or C;
∴ A is neither D nor E.

(vii) A is either B or C;
C is either D or E;
∴ A is either B or D or E.

These are subject to the same rules as stated above, and require no separate treatment. They are employed in practical scientific inquiries including the discovery of causal relations.

16. There is a third kind of complex inference in which the first premise is a conjunctive judgment, and the second premise is simple, while the conclusion is a disjunctive judgment.

(i) If both A and B, then C:
C′:
∴ Either A′ or B′.

The first premise says that A and B together imply C; and the second premise negates C; hence we are justified in negating the implicans which is a combination of A and B. The conclusion is what some of the modern logicians call the proper disjunctive judgment. It is *linguistically* but *not logically* different from the old disjunctive, and so we cannot recognise it as a distinctive form of judgment.

The following concrete examples may be cited:

(a) If a plane figure is rectilinear and has three equal sides, then all its angles must be equal:
But the angles of this plane figure are not equal:
∴ Either its sides are not equal or it is not rectilinear.

(b) When the line is in order and you press the button of a sound electric fan, then its blades begin to rotate;
But the blades of this sound fan are not rotating:
∴ Either the line is not in order, or you have not pressed the button.

It will be noted that this type of inference is employed when we find that the conclusion of a valid inference is false as a matter of fact.

> "If the premises of a valid inference are true, the conclusion is true:
> But the conclusion of this valid inference is false;
> ∴ Either the one or the other premise is false".

17. We will conclude this chapter by adding a few remarks on the so-called dilemmatic inference. The dilemma has had a long history behind it, and it has always won the admiration of laymen. Truly, its proper sphere is popular argumentation, but it cannot have a place in logic. The dilemma is a *formal* ideal of inference, but no *actual* inference put in the dilemmatic form is ever valid or correct. This will no doubt sound extremely unplausible, but we are going to justify our rejection of the dilemma.

It has long been recognised that dilemmatic arguments are more often fallacious than not. But many logicians have contended that there is no inherent defect in the dilemma as a form of argument. They urge that the only difficulty with the dilemma is the selection of "materially true" premises; but that when the premises are true, the conclusion will be true, and this characteristic the dilemma shares with all other forms of inference. (*Cf. Creighton and Smart, "Introductory Logic"*).

But we maintain that it is impossible to form a valid dilemma which has a true conclusion. The defect lies in the disjunctive premise which must have two alternatives at once exclusive and exhaustive. Now, *no actual disjunctive judgment can have two contradictory alternatives*. To suppose so is entirely to ignore the situation in which actual judgments are made. No one in his senses thinks it worth while to assert, e.g., "This boy is honest or dishonest", "That book is or is not old". We have already said that disjunctive judgments are always particular, and an example like "All men are civilised or uncivilised" is not a disjunctive judgment at all. The dilemma is valid only when you deal with symbolical examples of judgments, and yet the dilemma is prized because of its application in practice. A dilemmatic argument would be valid if its disjunctive premise were an instance of the Law of Excluded Middle: but no such instance is an actual judgment at all. Hence the dilemma must be refused all claim to the title of inference, even though it may masquerade as such in textbooks and popular parleys for the amusement of young learners and laymen. The traditional logic which delights in verbalism has a secure place for the dilemma, but it must be refused entrance into any logic that is concerned solely with the analysis of our actual judgments and inferences.

CHAPTER XV

LAWS OF THOUGHT

1. It is customary to discuss in Logic certain principles that go by the name of "Laws of Thought". Tradition has sanctified three of them as the most fundamental so that they are referred to as *the* laws of thought. It has been objected that there are other laws, equally fundamental and necessary, that underlie thinking in its diverse forms. But the critics are silenced by the reply that the other laws are not of universal application inasmuch as they govern specific forms of thought.

There is truth in this rejoinder, and in what follows we will discuss the proper function of the traditional laws of thought. But logicians are not unanimous as to the exact meaning of these laws, even though all of them seem to recognise their pivotal role in thought. This is rather strange in spite of the proverbial disagreement of philosophers. But on analysis we may find that the laws do try to bring out certain basal features of thought and that the difference of opinion is due either to a metaphysical bias or to a verbal confusion.

The three "Laws of Thought" are the Laws of Identity, Contradiction, and Excluded Middle. They are as old as Aristotle, even though he did not give clear formulations of the laws, specially of the Law of Identity. Later thinkers have devoted considerable attention to these laws and the Law of Contradiction has been regarded as of supreme importance for all discourse and argumentation. But before we can discuss the relative importance of the laws we must be clear as to the precise meaning of each of them.

2. The Law of Identity is usually put in the symbolic form "A is A". But this is clearly a tautology and does not give us any information about the nature of A. It may no doubt be replied that the law merely states that "Everything is what it is". This would be acceptable if it merely referred to the numerical identity of the object of thought. But those who regard the Law of Identity as a

fundamental law of thought mean something more than this. They want to tell us something about the nature of the object of thought.

Aristotle himself declared that "Everything that is true must in every respect agree with itself". ("*Analyt. Priora*", *47a, 9*). This is not very illuminating: but when we remember that Aristotle often used the term "true" as a synonym for "real", the above statement may be interpreted as expressing the "persistent individuality" or identity of a substance which, for him, is the logical subject. Now, this is doubtless a theory as to the nature of things, but it can hardly be called a law of thought in any sense. Hence the statement may be taken to mean that a judgment that is true must be free from self-contradiction. Apart from the fact that this is the meaning, for some, of the Law of Contradiction, the law would be inaccurate in correlating self-consistency with truth alone. For even a false judgment must be free from self-discrepancy. We may therefore interpret the statement in the following manner: "If a judgment is true once, it is true forever". But in this form the Aristotelian statement would be a half-truth: for it is equally true that if a judgment is false once, it is false for ever.

Bradley interprets the Law of Identity in this way and says that it means—"Once true always true, once false always false". It is clear that in this form the law describes a character of thought, but its exact significance is not so clear. Bosanquet has stated it somewhat differently by pointing out the distinction between the time *of* predication and the time *in* predication. The time of predication has nothing to do with the truth of a judgment. If a judgment is true, it is true because of a timeless relation of itself to something else and its truth is independent of the time at which it is made: similar remarks apply to the falsity of a judgment. Keynes also accepts this interpretation of the Law of Identity and connects it with the unambiguity of the act of judgment emphasised by Sigwart. (*cf.* "*Formal Logic*", *p. 451*).

What these thinkers say about the truth-value of a judgment is quite true. The truth or falsity of an act of thought depends on a timeless, logical relation. But the bearing of this fact on the Law of Identity is rather obscure. A judgment is an actual mental state that takes place at a point of time. Its truth-value may be timeless but is not an identity in any sense. Hence the above interpretation of the Law of Identity is open to question. We could accept it if we regarded truth as an eternal entity raised above space and time,—a view we have found reasons to regard as definitely erroneous.

Perhaps the Law has something to do with the unambiguity of the act of judgment. But the unambiguity must be taken to concern the meaning or reference involved in a judgment. Every judgment accepts a propositional reference, and if two seemingly different judgments contain the same reference, they are identical. Such apparent difference is due to differences in verbal expression. Hence we are led to Mill's version of the Law of Identity which runs thus: "Whatever is true in one form of words is true in every other form of words which conveys the same meaning". (*"Examination of Sir William Hamilton's Philosophy", p. 466*). This is, however, a corollary from the Law of Identity which relates primarily to the nature of judgment. The Law of Identity, as a law of thought, should therefore be stated in the following manner: *"Every judgment is the acceptance of a referende or meaning which is integral and unique"*.

Mill's corollary has a further consequence that the meaning of a word does not change (in the same context). We have already seen that the identity of reference or meaning is primarily propositional and secondarily verbal. Our interpretation of the Law of Identity is comprehensive because it regards the Law as applicable to actual thought in its concrete setting. The form "A is A" need not, therefore, be rejected if it is taken to symbolise the unique and integral character of every judgment.

3. The Law of Contradiction is generally put in the form "A is not not-A". This too, like "A is A", seems to be a sheer tautology. For not-A is anything other than A, and to say that A is not other than A is to say, in effect, that A is A. And yet the Law is not a re-statement of the Law of Identity because it involves the category of otherness which it tries to explain.

Some believe that the Law of Contradiction points out the incompatibility or contradiction between things. As Aristotle said: "The same attribute cannot at the same time belong and not belong to the same subject in the same respect". (*"Metaphysica", 1006a, 17*). But in this sense the Law is better expressed in the form—"A cannot both be and be not B". This may be restated as—"A cannot be both B and not-B", where not-B is the contradictory of B. But such a formulation is objectionable because it assumes that things or qualities may be contradictory to one another. True, Hegelians as well as many others have supposed this to be the case: but we must declare it to be a cardinal error. Existents or their actual qualities are indeed other than one another, but are in no sense contradictory to one another.

The wrong supposition is due to an inadequate analysis of the negative member of a pair of contradictory terms. Two terms of which one stands for a thing (or any of its features) and the other for anything other than itself (or its features) are said to be contradictories. The second member is negative and is represented by simply adding the particle *not* (or any of its synonyms) to the positive term. As thus conceived the negative term is otherwise designated as *infinite* because it is indefinite and refers to anything other than the referent of the positive term. The actual referent is, however, no mere *any other* but a definite other with a positive character of its own. Hence the relation of contradiction obtains properly between two abstractions one of which is definite and the other indefinite.

As we have already pointed out, the primary reference is not verbal but propositional, and so the relation of contradiction holds between two propositional references accepted by an affirmative judgment and its corresponding negation. Since, however, propositions are aspects of judgments we may regard contradiction as a specific relation among judgments with incompatible references.

Contradiction is a symmetrical relation between two incompatibles. In fact, however, it is so unlike any other relation that we can hardly classify it under any particular type of relations that obtain among concrete objects. This unique relation is double-barrelled, as it were: it has a two-fold aspect which can be brought out by two distinct statements. If p and p′ are two contradictory propositions, then the relation between P and P′ which, respectively, assert them is indicated as follows:

(1) Not both P and P′;
(2) Either P or P′.

The first is the Law of Contradiction which declares that thought avoids contradiction: the second is the Law of Excluded Middle that excludes a third possible reference in the context of two contradictories. In other words, the former points out that thought cannot accept two contradictory references; and the latter holds that thought must accept one or the other of a pair of contradictory references. It is clear that the two laws between themselves merely bring out the complete nature of the relation between a pair of contradictory judgments. While the Law of Identity denotes the unique character of the reference of an individual judgment, the Laws of Contradiction and Excluded Middle indicate the relationship between two judgments with contradictory references. All of them relate to the nature of judgment or thought as an actual referential process.

4. Having interpreted the Laws in this manner we might feel tempted to pass on. But some would raise here a question regarding the relation between truth-values of contradictory judgments. In fact, it is customary to state the Laws of Contradiction and Excluded Middle in terms of truth and falsity, just as the Law of Identity is interpreted as expressing the eternal truth or falsity of a single judgment. Thus we have the following versions of those two :

Law of Contradiction : "A is B" and "A is not B"
cannot both be true;
Law of Excluded Middle : Either "A is B"
or "A is not B" must be true.

In other words, while the former states that contradictory judgments cannot both be true (one of them must be false), the latter holds that they cannot both be false (one or the other must be true). As Keynes puts it : "The law of contradiction tells us that of two contradictory judgments one or other must be false, the truth of either implying the falsity of the other; the law of excluded middle tells us that of two contradictory judgments one or other must be true, the falsity of either implying the truth of the other". (*Op. cit., pp. 458f*).

Bradley makes these laws relate to the truth-value of single judgments. Thus, for him, the Law of Contradiction states that "denial and affirmation of the self-same judgment is wholly inadmissible". ("*Logic*", *Vol. I, p. 147*). This means, of course that no judgment can be both true and false. The Law of Excluded Middle receives a similar treatment and is expressed as "the axiom that every possible judgment must be true or false". (*p. 151*). Apart from the fact that for Bradley every judgment is at once true and false, the above interpretation is only a special application of the Laws that explain the relation between two contradictory terms (which are primarily propositional). If truth and falsity are a pair of contradictory terms (which, for Bradley, they are unfortunately not), then we cannot apply them to the same judgment at any time. Hence the Laws are best regarded as expressing the relation between two different judgments with contradictory references.

5. The difference between the interpretations of Bradley and Keynes is due to a vague conception of the role of the laws of thought. They are usually regarded as normative, even though they cannot by themselves guarantee truth to judgments. But the laws may be regarded, alternatively, as statements of the positive characters of judgments. This distinction has not, we fear, been properly realised by logicians. Bradley does not explicitly recognise the function of the laws of thought, although his versions describe positive characters of judgments. But elsewhere he regards the Law of Contradiction as the supreme criterion of truth, for coherence is but another name for non-contradiction applied to the general system of judgments. Hence two of the laws of thought—(the law of excluded middle being complementary to that of contradiction)—are for him, too, normative in character. Keynes regards these two laws as normative, though his interpretation of the Law of Identity as expressing the unambiguity of the act of judgment is not itself free from ambiguity.

6. But are the laws of thought in their traditional forms really normative in character? This question may perhaps be answered properly only when we have clearly brought out the distinction between positive and normative laws. The term "law" as used in science is "a uniformity of nature", or rather, a statement of the uniform behaviour of a class of objects. It describes a uniformity among facts or existents in respect of specific changes or movements. A scientific law, unlike a State law, has no reference to any authority that lays it down and enforces it. Further, while any law of a State may be violated, a law of nature cannot be disobeyed. This is not to say that a scientific law is necessary in the sense that exceptions to it are inconceivable: but that a law which is found to have exceptions ceases to be regarded as such and is replaced by another of wider

application, or its sphere is narrowed in the light of experience. Now, in addition to these two classes of laws, we have a third class where the laws lay down certain norms or ideals of conduct, thinking, and aesthetic experience. These laws are normative and they state not what is, or must be, but what should be. While a scientific law expresses an "is" and a State law a "must", a normative law states an "ought". Such a law can indeed be violated, but all of us recognise that it should not be violated.

A logical law is normative when it lays down a rule or law of correct thinking. The rules of inference discussed before are all normative because they are meant to secure the correctness of thought. Such rules, we have seen, are merely formal in the sense that they guarantee the validity of inference alone. The truth of the conclusion depends on that of the premises for which, however, the laws of inference cannot vouch. Still, there is no harm in considering them to be normative laws or rules because they do partly condition the truth of conclusions. Now, are the laws of thought analogous to the rules of inference?

The distinction between these two forms of laws is quite apparent. Rules of inference may be violated and, in fact, are violated even by a person who is familiar with them. But the laws of thought cannot be violated by any one who thinks at all. It may be replied that the rules of inference cannot be transgressed by one who knows the rules. Whether this is true or not, the man who breaks rules of inference thinks all the same, though no doubt he thinks incorrectly. But the man who would disobey the laws of thought could not think at all. This statement is not confuted by cases of apparent self-contradiction. For in such cases the person concerned is either confused (and to that extent does not think) or is intellectually dishonest (and does not think what he says he does). Thinking should be clearly distinguished from uttering meaningless sentences (which are mere verbal groups without corresponding mental attitudes). Incidentally, Mill's contention that a judgment may be neither true nor false but meaningless is due to a confusion between a judgment and its verbal expression in a sentence.

7. It may yet be contended that the laws of thought relate to the truth and falsity of judgments and have thus a normative function. Besides, though they do not specially bear on the correctness of inference, they are still regarded as the foundation of all reasoning

and discourse. Thus Keynes says that the laws of thought are "the foundation of all reasoning in the sense that consecutive thought and coherent argument are impossible unless they are taken for granted". (*op. cit., p. 450*).

He admits that the laws perform a negative rather than a positive function: for "though we cannot without their support proceed a step in reasoning, ...if we were to rely on their aid alone, thought would immediately come to a standstill". (*Ibid*). This may be admitted by us too. But our contention is that if the laws cannot be violated by us so long as we think there is no sense in speaking of them as normative laws.

These laws should therefore be regarded as *positive,* i.e. as statements of the ways in which we actually think. This view makes them akin to scientific laws which, too, are expressive of inviolable uniformities. It is because the traditional laws of thought (in their acceptable versions) describe the nature of thought, correct as well as incorrect, that they fail to guarantee truth to thought. For even the staunchest advocates of the laws would not go so far as to say that they alone are sufficient to make all thinking correct. True, attempts have been made to deduce other logical laws (which are truly normative) from the Laws of Thought. But such attempts, if successful, would reduce logic to a purely formal study like mathematics. Symbolic logic has tried to construct a formal system by assuming other laws besides the traditional laws of thought. But it has failed to notice that they relate to all thought and are inviolable, which is not true of the other laws. The traditional laws of thought are positive and of universal applicability in the domain of thought.

8. This is not to suggest that the laws are what is sometimes described as psychological. We do not hint that they relate merely to ways of thinking and have no bearing on the nature of the objects of thought. (*cf. Hamilton, "Lectures on Logic", Sec. V*). Such a view would fail to distinguish thinking from imagination which does not aim at truth and is uncontrolled by objective facts. Thinking or judging has a necessary reference to objects, and the Laws of Thought, to be such, must refer to certain features of objects. Now, the interpretation of the laws given by Bradley, or that by Keynes, does not make this clear.

Joseph regards the Laws as concerned with thinking and objects of thought at the same time. In his own words: "Now though these are called laws of thought, and in fact we cannot think except in accordance with them, yet they are really statements which we cannot but hold to be true about things". (*Op. cit., p. 13*). But his view depends on the interpretation that the Laws of Contradiction and Excluded Middle deal with contradictory terms that stand for qualities of things. Such an interpretation has been found by us to be incorrect. The fundamental error in this mode of thinking is that contradiction is regarded as a relation between things or their qualities and not between propositional references.

The error becomes apparent as soon as we reflect that the laws cannot by themselves warrant the truth of a single judgment. As Miss Stebbing says, they are "purely formal principles which are independent of what is given; they are negative determinations of what is possible". (*op. cit., p. 471*). They cannot determine or describe the nature of the object of a single actual thought. They are helpful in the construction of abstract systems that deal with the possible. Hence they may be described as the laws of formal consistency which falls short of truth proper.

This is not to deprive them of all reference to objects, in which case they would indeed cease to be laws of thought at all. We intend merely to point out that as laws of objects they describe but partly the nature of *subsistents* and not of *existents*. Thoroughgoing rationalists might regard them as capable of determining the nature of existents as well. But to do that is to reduce the concrete world to "a spectral woof of impalpable abstractions".

9. *The traditional Laws of Thought thus describe fundamental features of all judgments in respect of their reference and truth-value.* We would venture to modify them partly in order to bring out all the basic characters of judgments in those two respects.

Now, the Law of Identity ("A is A") points to *the unique character of every judgment as an integral reference*. But the Law of Excluded Middle, which supplements the Law of Contradiction in exhibiting the complete character of contradiction, is really superfluous. For the Law of Contradiction declares that two contradictory judgments cannot both be true. As soon as we recognise that truth and falsity are incompatibles, and this in virtue of specific relations between references and referents, we know at the same that the contradictory judgments cannot both be false.

It has already been shown that there is little difference between two judgments of the forms, "Not both P and Q" and "Either P or Q". In other words, the disjunctive judgment both disjoins and makes an alternative assertion. Thus, "Either P or Q" is equivalent to "If P′, then Q" *and* "If P, then Q′". Whatever doubt we may have as to the correctness of this interpretation in respect of all judgments, there is surely no room for doubt when P and Q are contradictories. Hence "Either P or P′" is the same as "Not both P and P′". It is customary to state the Law of Contradiction in this latter form, and we need have no serious objection to this procedure. But there is no need to offer the Law of Excluded Middle as a supplement to the Law of Contradiction which may, therefore, be stated in the form—"Not both P and P′". It means that—"*A judgment and its contradictory cannot both be true* (*or false*)".

We have already recognised coherence as a criterion of truth: the Law of Contradiction merely explains the nature of this criterion in a formal manner. But coherence is not the only criterion of truth which depends on a relation between a reference and its referent. This is why the Law of Contradiction cannot by itself warrant the truth of a single judgment, even though a violation of the Law would be disastrous to truth and thought whose character it is.

10. None the less, we may admit, in addition, a Law of Excluded Middle interpreted in a different manner. The Law of Identity brings out the *referential* character of judgment: but every judgment has a *truth-quality* accruing from a specific relation between its reference and referent. It is quite legitimate to expect that the fundamental laws of thought should tell us of this essential and exclusive character of judgments.

The Law of Excluded Middle is needed to bring out this character. It states that "*Every judgment is either true or false*". This, as we know, is another of way of saying that "A judgment cannot be both true and false". We must not, however, confuse it with the Law of Contradiction that describes the relation between two *different* judgments with contradictory references.

11. If P and P′ stand, respectively, for any judgment and its contradictory, and T and T′, likewise, for truth and falsity, then the Laws of Thought may be restated, symbolically, as follows :—

(1) Law of Identity : P is P ;

(2) Law of Excluded Middle : P is either T or T′ ;

(3) Law of Contradiction : Not both P and P′ are T (or T′).

12. The laws of thought have been regarded by some as generalisations from experience, while some others have considered them to be *a priori* and necessary truths independent of experience. Both views rest on a wrong conception of the nature and function of the laws. These laws describe some of the basal characters of thought and apply to all judgments without a single exception. Since a single step in thinking and reasoning is impossible without obedience to the laws, it would be absurd to regard them as conclusions derived from experience. It would be equally wrong to conceive them to be readymade principles waiting in the mind to be utilised in experience.

In other words, they are neither *a priori* nor *a posteriori* in a temporal sense. They are logically *a priori* in that they are presuppositions for all thought, whether explicitly recognised as such or not. But our knowledge of the laws is *a posteriori* in the sense that we become aware of them only when we are in a position to reflect on the nature of thought.

They are necessary because all thought must conform to the conditions laid down by them. No thought can violate them without stultifying itself, and no thought can conceive of their opposites being true. They are psychologically self-evident in that we accept them without question as soon as we understand what they mean. They are also logically self-evident because, though they condition all proof, they are themselves incapable of proof. As Dr. Stebbing says : "The notion of proof is relative to something unproved ; what is taken as unproved determines what can be proved". (*op. cit., p. 473*). They are axiomatic principles incapable of proof and disproof.

The axioms of a deductive system are not valid in an absolute sense, but only as relative to the system. The Laws of Thought are, however, unlike such principles known as postulates, because they are valid without reference to any particular system. This does not mean that they are pure forms shorn of all reference to contents, in which case they would not be laws at all. *They relate to thought in its most general feature as epistemic reference*, and lay down the conditions that such reference must fulfil in order to be what it is. This is why the Laws are entitled to a unique place in the study of thought.

FINIS

APPENDIX

BIBLIOGRAPHY

The following list contains only the titles cited in the text

Alexander : Beauty and Other Forms of Value.
Space, Time and Deity.

Aristotle : De Interpretatione.
Metaphysica.
Priora Analytica.

Ayer : Language, Truth and Logic.
The Foundations of Empirical Knowledge.

Bergson : An Introduction to Metaphysics.
Creative Evolution.

Berkeley : The Principles of Human Knowledge.

Blanshard : The Nature of Thought.

Bosanquet : Logic.
Implication and Linear Inference.

Bradley : Appearance and Reality.
Essays on Truth and Reality.
The Principles of Logic.

Broad : Scientific Thought.
The Mind and Its Place in Nature.

Carnap : The Logical Syntax of Language.
The Unity of Science.

Carritt : The Theory of Beauty.

Chatterjee, S. C. : The Nyaya Theory of Knowledge.

Das, A. C. : Negative Fact, Negation and Truth.

Datta, D. M. : The Six Ways of Knowing.

Descartes : Meditations.

Dewey : Logic.
The Quest for Certainty.

Drake & Others : Essays in Critical Realism.

Eddington : The Nature of the Physical World.
The Philosophy of Physical Science.

Ewing : Idealism.
Green : Introduction to Hume's *Treatise.*
Hamilton : Lectures on Logic.
Hartmann : Ethics.
Hegel : The Science of Logic.
Hicks : Critical Realism.
Hobhouse : The Theory of Knowledge.
Holt & Others : The New Realism.
Hume : An Enquiry concerning Human Understanding.
A Treatise of Human Nature.
James : Principles of Psychology.
Jeans : Physics and Philosophy.
Jevons : Principles of Science.
Joachim : The Nature of Truth.
Joad : Philosophical Aspects of Modern Science.
Johnson : Logic.
Joseph : An Introduction to Logic.
Kabir, H. : Poetry, Monads and Society.
Kant : The Critique of Pure Reason.
Keynes, J. M. : A Treatise on Probability.
Keynes, J. N. : Formal Logic.
Köhler : Gestalt Psychology.
Laird : A Study in Realism.
Locke : An Essay concerning Human Understanding.
Lossky : The Intuitive Basis of Knowledge.
Mackenzie : Manual of Ethics.
Mill : An Examination of Sir W. Hamilton's Philosophy.
A System of Logic.
Moore : A Defence of Common Sense.
Philosophical Studies.

Morris : Idealistic Logic.

Ogden and Richards : The Meaning of Meaning.

Paton : Kant's Metaphysic of Experience.

Peirce : Collected Papers.

Plato : Theatetus.

Price : Perception.

Prichard : Kant's Theory of Knowledge.

Radhakrishnan : The Reign of Religion in Contemporary Philosophy.

Raymond : Art in Theory.

Reid : Knowledge and Truth.

Ross : Aristotle.

Russell : An Inquiry into Meaning and Truth.
An Outline of Philosophy.
Introduction to Mathematical Philosophy.
Mysticism and Logic.
Our Knowledge of the External World.
Principia Mathematica.
The Analysis of Mind.
The Principles of Mathematics.
The Problems of Philosophy.

Sapir : Language.

Sartre : Existentialism and Humanism.

Schiller : Formal Logic.
Studies in Humanism.

Schilpp (ed.) : The Philosophy of G. E. Moore.
The Philosophy of John Dewey.

Shelley : A Defence of Poetry.

Smith : A Commentary to Kant's Critique of Pure Reason.

Stebbing, Miss : A Modern Introduction to Logic.
Philosophy and the Physicists.

Stout : A Manual of Psychology.
Studies in Philosophy and Psychology.

Titchener : Experimental Psychology of the Thought Processes.

Tolstoy : What is Art ?

Urban : Language and Reality.

Ushenko : The Problems of Logic.

Ward : Psychological Principles.

Watson : Psychology from the Standpoint of a Behaviorist.

Whitehead : Principia Mathematica.
Process and Reality.

Wilson : Statement and Inference.

Windelband : The Principles of Logic.

Wittgenstein : Tractatus Logico-Philosophicus.

Wood : The Analysis of Knowledge.

Woodworth : Contemporary Schools of Psychology.

JOURNALS

Journal of Philosophy.

Mind.

Proceedings of the Aristotelian Society.

Proceedings of the British Academy.

INDEX

Abnormal, 103, 106
Absence, 139
Absolute, 3, 56, 66, 75, 77, 79, 92, 188
Absolute Idealism|Absolute Idealist, 3, 34, 56, 66, 74, 79, 92, 97, 111, 150, 158, 182, 188, 213, 217
Absolute time, 246
Absolute truth, 158
Abstract thinking, 96
Abstraction, 3, 11, 26, 30, 33, 40, 44, 61, 93-4, 98, 100, 103, 150, 159, 163, 168, 170, 175, 185, 192, 211, 248-9, 262
Abstractionism, 69, 191
Acceptance, 25, 27, 53, 70
Accidental, 53
Accordance, 28, 52, 72
Acknowledgment, 12, 194
Acquaintance, 92
Act, 29, 33-4, 91, 117-9, 130, 190
Action, 51, 201
Activity, 7, 34, 54
Actual|actuality, 45, 52, 199, 201
Actualisation, 42
Adjective, 28
Adjustment, 73, 93
Aesthesis, 205
Aesthetic experience, 189-94, 203-6, 260
  — judgment, 189, 203-7
  — objectivism, 189-90
  — subjectivism, 191-2
Aesthetics, 31
Affection, 7, 11, 19, 20, 52, 128, 202
Affirmation, chap. viii *passim*
Agnosticism, 55
Agreement, 33-4
Air-vibration, 202
Alexander, 43, 56-7, 59, 79, 120, 123, 204, 243
"All", 161-3
Alphabet, 8
Alternative judgment, 153-5, 158
"Ambiguity", 46, 209
Anaesthesia, 205-6
Analogical|analogy, 9, 13, 135, 201
Analysis, 1, 61, 180, 183-4
Analytic judgment, 174, 179-84, 235, 249
Antecedent, 146, 149
Anupalabdhi, 140
Anuvyavasāya, 125
Apodeictic judgment, 171, 173
A posteriori, 180, 264
Appearance, 9, 55, 57, 68, 77, 98, 120
Apprehension, 26-7
Approbation, 201
A priori, 40, 55, 60, 180, 242, 264
Apriorism, 46
Argument|argumentation, 4, 165, 252, 254
Aristotle, 51-3, 56-7, 134, 144, 165, 189, 200, 230, 245, 254-6
Art, 189, 203-7
Assertion, 25-6, 32-3, 108, 194, 197
  — complex, 148-60
  — simple, 148-9
Assertive attitude, 48
"Assertive tie", 133
Assertory judgment, 171, 175-7
Assimilation, 62, 93
Associationist, 41
Atomic, 245
Atomism, 58, 70, 88
Atomistic psychology, 244
Attention, 62, 90, 107, 119, 145
Attribute, 27, 33, 112, 134, 143, 256
Authority, 8, 190, 203
Autonomous, 200, 207
Awareness, 33, 35, 53, 58-9, 87, 123
Axiological objectivism, 186-90
  — subjectivism, 190-2
Axiology, 185
Axiom, 113, 264
Ayer, 46-7, 69, 70, 179, 242

Basic assertion, 113
Baumgarten, 189
Beauty, 31, 185, 189-92, 200, 203, 207
"Because", 175, 213, 219

O.P. 128—35

Becoming, 43, 70
Behaviour, 7
Behaviourism, 10, 17, 38-9, 127-8
Being, 43, 52-3, 69, 70, 131-2, 135
Belief, 9, 21, 25, 28, 103, 116, 119-21, 137, 145, 159, 172, 177, 193
Bergson, 3, 15, 82, 89, 114, 138
Berkeley, 10, 29, 59, 89, 101
Biological, 130, 201
Bi-polar, 6, 23-4, 57
Blanshard, 41-2, 90
Bosanquet, 10, 28, 53, 213, 255
Bradley, 3, 7, 27-8, 39-41, 53, 66, 75, 117, 132, 139, 146-7, 156, 158-9, 181-3, 212-4, 218, 222-3, 243, 255, 258-9, 261
Broad, 58, 100-1, 243
Browning, 198
Buddhist, 140

Carnap, 8, 44-5, 179
Carritt, 191
Cartesian, 63
Cassirer, 11, 135
Categorial, 73, 140, 148, 223
Categorical Imperative, 186-7
Categorical judgment, 143-5, 183
Categorising, 54, 57-8, 61
Category, 1, chap. iv *passim*, 88-9, 95-6, 101, 112, 196, 223-5, 230, 246, 256
Causal correlate, 36
— efficacy, 38, 47
— inference, 241-2, 247, 249
— relation, 47, 151, 167-8, 214, 235, 241-7, 251
Causality, 65, 151, 178, 248
Causation, 36, 100, 151, 167, 175, 211-2, 214, 242
Cause, 16, 36, 241, 244
Censor, 202
Certainty, 5, 71, 85, 171-2, 177, 211, 232, 242
"Certified judgment", 173-4
Change, 65, 245, 259
"Character complex", 99
Characterisation, 28, 90
"Characterising tie", 133
Chatterjee, 125
Chemical, 90
Class, 12, 48-9, 51, 93, 162, 245
Class-essence, 245
Co-existence, 125
Cognition, 3, 7, 11, 19, 23-4, 98, 101, 128, 202
Cognitive acceptance, 25
— reference, 20-4
Coherence, 28, 34, 72, 74, 76, 79, 81-2, 150, 200-1, 259, 263
Coherence Theory of Truth, 28, 56, 74-8, 111
Collective judgment, 248
Colour-blind, 112
Communication, 6, 9-16, 46-7, 49, 60, 66, 108, 114, 195, 206
"Communion", 42
Community, 12
Comparison, 222
Complex, 192
Complex inference, 221, chap. xiv *passim*
— judgment, chap. ix *passim*, 167
Complication, 104
Composite, 164
Comprehensiveness, 74
Compresence, 43, 63, 90, 121, 123
Comte, 5, 123
Conation, 7, 11, 17, 19, 20, 23, 128, 202
Concept, chap. iv *passim*, 93-6
Conceptualisation, 29
Conceptualism, 29, 55
Concern, 30
Conclusion, chaps. xii & xiv *passim*
Concordance, 79
Concrete, 70, 87
Condition, 214, 264
Conditional judgment, 143
Conditioned reflex, 13, 39
Conduct, 260
Configuration, 47
Conformity, 34, 72, 110, 196, 200
Congruence, 72, 105
Conjunction, 152, 160
Conjunctive inference, 234
— judgment, 152, 164, 166
Connotation, 125
Conscience, 186, 201-2
Consciousness, 11, 19, 21-2, 24, 57, 93, 120, 129, 205

Consequence, 77, 174, 209, 211
Consequent, 146, 149
"Consequential", 151, 168
Consistency, 75, 79, 80, 150, 201, 203, 211
Construction, 70
"Contact", 83
Contemplation, 123-4, 194, 197
Content, 26, 39, 40, 61, 75, 83, 102, 116-9, 121, 201-2, 264
Context, 37
Contiguity, 90, 244
Contingent, 175
Continuant, 49, 89, 93-5, 119
Continuity, 11, 65, 244
Continuum, 61, 88, 93, 106
Contour, 68
Contradiction, 81, 84, 97, 256-7, 262
Contraposition, 232
Conversion, 230
Conviction, 171-3, 198
"Copernican revolution", 54
Copula, 131-7, 142, 145, 171
Copy|copying, 73, 87
Copy Theory, 37, 39, 74
Corollary, 256
Correlation, 73, 93, 245
Correspondence, 28, 47, 52, 72, 74, 77, 81-2, 109-10
Correspondence Theory, 28, 47, 52, 72-6, 79, 109
Creation, 102, 204-5
Creighton, 252
Criterion of truth, chap. v *passim*
Critical Realism, 99-100
Croce, 10, 192
Cross-section, 97
Culture-circle, 11-2, 46
"Curvature", 67
Custom, 8, 104

Das, 83-4, 142
Date, 51
Datta, 8, 125
Datum, 57, 75, 87-92, 94, 97, 108, 111, 120-2
Deduction, 61, 151-2, 209-10, 218, 235, 237-8
Deductive inference, 238
Definite, 161
Definition, 36-7, 45, 70, 179-80
Degree, 172, 230
Degrees of truth, 74
Degrees of reality, 75
Deity, 56
De Laguna, 91
Delusive experience, 97
Demonstration, 151
Denial, 138, 197
Denotation, 161
"Depth-psychology", 105
Descartes, 63, 123, 130
Description, 70
Desirability, 188
Desire, 188-9, 191, 201
Desiredness, 188
Determinable|determinant, 157, 159-60, 168
Devolutionary, 199
Dewey, 3, 78, 136-7, 141, 173
Dialectic, 56
Dichotomy, 168
Difference, 42, 64-5, 93, 196, 215-6
Differentiation, 58, 62, 93, 135
Dilemma, 63, 109, 252-3
Direct Realism, 63, 122
Disapproval, 201
Discourse, 10, 15, 29, 33, 36, 254, 260
Disjunction, 152, 160
Disjunctive inference, 249-52
— judgment, 143, 153-60, 249-53
Disposition, 128
Disproof, 264
Distinction, 53, 64-5
Distribution, 161
Division, 124, 143
Dogma, 87, 111, 145, 230
Dogmatism, 55
Double image, 106-7
— negation, 142
Doubt, 21-3, 25, 138, 153-4, 156, 159, 172, 232
Dream, 160
Dualism, 5, 60, 64, 88, 106, 205
Duality, 6, 35, 60, 64
Duty, 191, 201
Dynamic, 5, 39, 43, 53, 58, 202

Ecstasy, 42
"—ed", 21

Eddington, 66-8
Eduction, 232
Effect, 16, 36
"Efficiency", 82
Ego, 127
Einstein, 178
Electron, 64, 67, 178, 246
Electronic Theory, 67
Emergent, 88
Emotion, 14-5, 192, 205
"Emotive use", 14-5
Empirical, 78, 89
Empiricism, 46, 54-6
Emptiness, 140
End, 77
Enjoyment, 123-4, 190, 193, 205-7
Entity, 36-7, 29, 31, 33-4, 39, 41, 44, 52, 60, 71, 88, 97, 101, 104, 106, 180, 188, 192-3, 195-6, 203, 211-2, 256
Enumeration, 164, 169, 218
Environment, 50, 59, 61, 64, 68, 77, 85, 104, 200
Epistemic, 142, 145, 149, 156, 159, 209, 218, 265
Epistemological monism, 6, 123, 128
Epistemology, 1, 54, 58, 63, 103, 108, 115-6, 178
Error, 3, 35, 63, 71, 81, 87-8, 91, 97-8, 101, 111-3, 115, 120, 130, 200, 214, 232
Esse, 69
Essence, 53, 99
Eternity, 85
Ethical judgment, 201
— subjectivism, 190-1
Ethics, 186, 191
Euthanasia, 206
Evaluative judgment, 1, 31-2, 138, 142, chap. xi *passim*
Event, 68
Evil, 188
Evolution|evolutionary, 199, 200, 241
Ewing, 52, 100-2, 106, 117, 246
Existence|existent, 10, 26, 28-30, 33, 39, 40, 43-5, 53, 58-9, 62, 64-5, 67, 69, 75, 81, 88, 92, 117, 132, 135, 148, 170, 177, 186, 191, 223-5, 229, 245, 259, 262
Existential judgment, 196, 248
Existentialism, 69
Expectation, 139, 242, 247, 249
Expedient, 3, 77
Experience, 1, 2, 4, 10, 46, 61, 66, 75, 118-20, 169, 180, 190-4, 196, 204-7, 264
Expression, 9-11 192, 195
Extension, 62
Extensity, 112
External world, 81, 91, 113, 127
Extrinsic, 82
"Extrinsic falsity", 84
Extrospection, 125

Fact, 5, 8, 29, 43, 45, 81, 113, 136, 145, 150, 194
Factual judgment, 32
Faculty, 202
Faculty Psychology, 202
Faith, 55, 57, 214, 241, 249
Fallacy, 165
Falsehood, 5, 156
Falsity, 4, 33, 71, 83, 81, 84, chap. vi *passim*, 149, 153, 217, 255, 260
"Family", 8, 48
Fancy, 115
Fantasy, 106
Feeling, 10, 13, 18-9, 23, 190-1, 194, 196
Fichte, 189
Fiction, 5, 35
Fictionism, 3, 73, 80, 100
"Figure", 165
"Floating idea", 39, 117
"Floating image", 117
"Fore-feel", 104
Form, 53, 60, 181, 199, 265
Formal Logic, 2, 4, 158
Formalism, 134-5
Frege, 134
Frequency Theory, 210
Freud, 105, 202
Fundamental, 60, 65
Fundamentum divisionis, 143

Gaultier, 192
General idea, 51, 54
— judgment, 164-71, 218, 221
— principle, 113

Generalisation, 162, 169, 237, 240, 243, 264
Genus, 51
Gestalt Psychology, 66, 88, 90, 244
"Given", 87, 94, 96, 99, 126, 184
God, 51, 59, 69, 181, 188-9, 198, 200
Grammar, 6, 208
Good, 188
Goodness, 31, 185, 189, 200 207
Green, 66
Ground, 147, 151, 175, 211, 248
Ground-and-consequence, 168

Habit, 90, 213, 215, 241
Hallucination, 106
Hamilton, 90, 261
Happiness, 201
Harmony, 80, 104, 200, 203
Hartmann, 186-7
Hedonic, 18
Hegel, 3, 55-6, 64, 123, 189, 192, 257
Heisenberg, 67
Hemsterhuis, 191
"Heptarchy", 84
Hicks, 41, 91
Hobbes, 136
Hobhouse, 116
"How", 237
"Human nature", 104
Hume, 21, 59, 69, 92, 101-3, 127, 151, 175, 215, 236, 241-5
Hutcheson, 202
Hypostatisation, 61
Hypothesis|hypothetical 5, 45, 71, 80, 103, 146, 169-70
Hypothetical judgment, 143-8, 169
Hysteron proteron, 38

Idea, 12, 26, 37, 39, 59, 87, 189, 202
Idea of the Good, 189
Ideal, 31, 185, 188, 194, 198-201, 203, 207, 260
Ideal content, 27-8
Idealism|Idealist, 2, 3, 5, 6, 42, 55, 74-5, 77, 81, 99, 214
Idealistic Logic, 2, 3, 6, 156, 158
Identification, 42, 58, 62
Identity, 8, 12, 42, 62, 64, 93-4, 108, 119, 160, 215-6, 218, 221, 223-5, 244-5, 254-6
Identity-in-difference, 42, 64
Identity in reference, 216, 222, 224
Identity of reference, 13, 48-9, 216, 256
"Ideogram", 9
Illusion|illusory, 96-7, 103, 106-7
Image, 14, 26-7, 37-9, 59, 93, 102, 116-7, 121
Imageless thinking, 127
Imaginary, 22
Imagination, 61, 71, 106, 115-6, 121, 191, 194, 204-5, 261
Imaging, 59
Imitative, 135
"Immanent", 73, 83, 186
Immediacy, 206
"Immediate consciousness", 82
Immediate experience, 15, 92, 104, 118, 126, 206
— inference, 231-3
— knowledge, 26, 28, 210, 224
Impenetrability, 67
Implicans|implicate|implication, 36, 148, 151-2, 160, 168, 174, chap. xii *passim,* 221-4, 232-3, 235-7, 246, 248
Implicative judgment, 152, 164, 248
Impression, 59, 69, 91, 244
Impulse, 204
Incompatibility, 256
Indefinite, 161, 257
Independence, 93
Indication, 15, 17
Indicative sentence, 19, 29, 30, 235
Indifference, 16
Individual|individuality, 7, 49, 51, 53, 64, 68, 91-3, 165, 191-2, 255
Induction, 151-2, 162, 164, 209, 218, 235, 237-8, 240
Inductive inference, 238
"Inductive leap", 240-1
Inductive methods, 241
Inductive Principle, 212, 214, 241-4, 247-9
Inference, 25, 98, 105, 148-9, 151, 169, chap. xii *passim,* 242
— complex, chap. xiv *passim*
— simple, chap. xiii *passim*
Inference by opposition, 232
Infinite, 257
Infinity, 58

Influence, 13, 17
"—ing", 21, 124, 130
Inherence, 109, 134, 143, 230
Innate idea, 60, 93
— principle, 101
Inner sense, 123
Inspiration, 205
Instant, 85
Instinct, 18, 103-4, 202-3
Intellect, 77-8
Intensity, 112
Intention, 8, 14, 16, 36, 71
Intentionality, 13
Interest, 2, 62-3, 93
Interpretation, 12, 21, 90-2, 97, 108, 111, 120-2, 206
Interrogation, 138
"Intransitive", 73-84
Intrinsic, 31, 71, 83, 81-2, 84
Intrinsic truth, 84
Introjection, 96
Introspection, 20, 26, 89, 115, 120-30, 194-5, 201, 203
Intuition, 3, 10-1, 92, 130, 187-8, 191-2, 200-1, 206, 214
Intuitionism|Intuitionist, 3, 10, 82, 84, 111, 123, 129, 186-7, 190
Inversion, 232
"Is", 131-3, 135-6, 187-8, 199, 260

James, 21, 114, 119, 124
Jeans, 65, 67
Jevons, 222
Joachim, 39, 74, 76
Joad, 68
Johnson, 27-8, 30, 64, 66, 133, 139, 164, 173-4, 197, 218
Johnson, Dr., 103
Joseph, 53, 132, 146-8, 212, 243, 245, 261
"Judging capacity", 191
Judgment, 1-3, 10, chap. ii *passim*, 52-5, 62, 72, 75, 79, 80-5, 87, 97, 131, 141-60, chap. x *passim*, 182, 255-6, 258, 262
Judgment of value, *vide* Evaluative judgment

Kabir, 14, 199
Kant, 5, 53, 56-8, 66, 68, 77-8, 89, 91, 95, 98, 123, 151, 172, 180-1, 186, 191, 202, 246
Kantian|Kantianism, 5, 58
Keynes, J. M., 210
Keynes, J. N., 138, 153, 255, 258-9, 261
Kinaesthesis, 37
"Kink", 67
Knowability, 88
Knowledge, 1-5, 10, 15, 28, 30, 34-5, 42, 50, 54, 57, 71-2, 81, 87, 101, 114, 118, 125-30, 139, 150, 180, 192, 211, 264
"Knowledge by acquaintance", 91-2, 98
"Knowledge by description", 91
Knowledge-situation, 28, 57, 63, 71
Köhler, 90

Laird, 97-8
Language, 6, chap. i *passim*, 26, 35-6, 44, 47, 72, 86, 113, 134-5, 199, 206, 208
Law, 67-8, 105
— positive and normative, 259-61
Law of Causation, 178, 214, 237
Law of Contradiction, 180, 254-9, 262-4
Law of Excluded Middle, 252, 254, 257-8, 262-4
Law of Identity, 212, 214, 243-4, 254-6, 258, 262, 264
Law of Nature, 259
Laws of Thought, 150-1, 160, 166, 174, 212, 214, 241, chap. xv *passim*
Leibniz, 53, 66, 123, 245
Letter, 8-9
Lie, 9
Life, 88
Likeness, 52
Limiting concept, 57
Lipps, 82
Lloyd Morgan, 21
Local sign, 122
Localisation, 58, 121
Locke, 59, 101, 200

Logic, 1-6, 24, 27, 31-2, 40, 66, 84, 86, 93, 112, 116, 131, 135, 152, 166, 169, 175, 199, 208, 216, 237-8, 252-3, 261, 264
Logic
  — Formal, 2
  — Idealistic, 2-3, 6
  — Mathematical, 3-4, 141, 143, 197
  — Pragmatist, 2-3, 6
Logical Atomism, 16
Logical judgment, 193
Logical law, 260
Logical positivism|positivist, 5, 6, 11, 44, 46-7, 80-1, 179
Logician, 4
Logistic, 4
Logomachy, 131
Logos, 86
Lossky, 82

Mackenzie, 31
Macroscopic, 64, 246
Magical, 8, 86
Magnitude, 62
Make-believe, 22
Making, 208
"Man-sized world", 65
Material implication, 212
Materialism, 67
Materiality, 62, 67
Mathematical formulae, 242
Mathematical Logic, 3, 4, 138, 141, 143, 197, 213
Mathematics, 4, 112, 135, 261
Matter, 67, 88
Meaning, 7, 8, 12-3, chap. iii *passim*, 138, 141, 143, 197, 213
Meaning—"external" and "internal", 41
Mechanist, 13
Mediation, 83
Meinong, 135
Memory, 26, 67, 89, 114-22, 128-9
Mendelssohn, 189
Mental, 34, 95, 101, 208
Mentalism, 67
Metaphorical, 135
Metaphysical Monism, 6
"Metaphysical sentence", 46
Metaphysics, 1-5, 56, 64, 80, 132, 254
Methodology, 54, 166, 175, 237
"Metonymous", 82
Microscopic, 178
Mill, James, 134
Mill, J. S., 131-2, 134, 136, 164-5, 179-80, 190, 218, 236, 241, 256, 260
Mind, 5, 7, 9, 12, 18, 22, 26, 35, 39, 40, 42, 54, 57, 85, 87-9, 97, 116, 121-4, 126-7, 130, 135, 191, 202, 205, 208
"Minding", 21
Miracle, 13, 122
Mnemic assertion, 114-5, 121
Modality, 54, 171-9
"Mode of being", 53
Monadism, 66
Monist, 66
Mood, 128, 186
"Mood", 165
Moore, 59, 100, 102
Moral consciousness, 193-4, 201-2
  — judgment, 31
Moral Sense Theory, 186-7, 202
Morality, 186, 188-9, 201, 203
Morris, 53, 181
Motion, 56
Motive, 8, 13, 201-2
Movement, 114, 246, 259
"Moving why", 237
Multiple personality, 202
Mystery, 15, 199
Mysticism, 3, 55, 80, 131, 145, 215, 217
Myth|mythical, 11, 60, 105

Naiyāyika, 140
Nature, 54, 60, 78, 186, 237
Necessary, 171
  — relation, 175
Necessity, 151, 175, 210, 212-7, 219, 241, 249
Negation, 41, chap. viii *passim*, 197
"Negative fact", 140
Neo-nominalism, 16
Neurath, 8
Neutral, 101, 103
New Realism|Realist, 6, 43-4, 60, 81, 97, 99, 102, 118, 140

Nietzsche, 187, 199
Nisbet, 210
Noetic judgment, 194-8
— value, 197
Noise, 8
Non-being, 52
Non-cognition, 140
Non-contradiction, 259
Non-existence, 89, 140
Nonsensical, 35, 103
Norm, 194, 260
Notion, 1
Not-self, 69
Noumenon, 54
Noun, 16-61
Novelty, 210
Nuance, 206
Number, 161
Numerical identity, 64, 94-5, 216
Nyāya, 82

Object, 7, 20, 34, 43, 57-8, 71, 87
"Object-word", 45-6
Objective, 60, 62, 64, 67-9, 71, 81, 215, 244
Objective reference, 2, 38-9, 43, 53, 58, 70
Objectivism|objectivist, 3, 5, 37, 52, 60, 68, 87, 94, 126, 186-8
Objectivity, 185
Obligation, 201
Observation, 46, 245
Obversion, 232
"Occam's razor", 102, 107
Occurrence, 47, 95, 113, 127
Ogden, 14, 36, 38-9
Ontologic, 56, 87, 176, 178
"Opinion", 79
Opposition, 81, 160
Organism, 37, 61, 104
"Ostensive definition", 45
Otherness, 62, 64, 140-1, 196, 223-5, 256
"Ought"|"oughtness", 187-8, 196, 198-9, 201, 204, 260
"Out-there-ness", 21, 96

Paraphrase, 232
Particular, 39, 41, 100, 113, 161, 218, 221
Passion, 2
Passivity, 21, 51
Paton, 55, 246
Peano, 134
Peirce, 79
Percept, 54, 94
Perception, 10, 21, 26, 54, 58-60, 62, 65-8, chap. vi *passim*, 114-6, 120, 122-3, 129, 202
Perceptual judgment, 30
Perfect Being, 203
Perfect Induction, 164
Perfectionism, 188-9
Person, 11, 13, 29
Personality, 202-3
Perspective, 43
Pervasive, 56
Petitio principii, 164-6, 214, 218
Phenomenon, 54, 57
Phenomenalism, 55, 59, 101, 103
Philosopher, 31, 65, 72, 87, 151, 211, 236
Philosophy, 2, 4, 5, 8, 11, 16, 53, 60, 84, 112, 181, 185, 189, 254
Physical object, 26
— world, 20, 34, 41
Physics, 1, 67, 87, 122
Physiological|physiology, 87, 90, 95, 105, 122
Place, 51
Planck, 178
Plato, 5, 10, 86, 189-90
Platonic, 44, 86
— myth, 105
Platonism|Platonist, 29, 190
Pleasure, 190-2, 197-8, 204
Plotinus, 189
Pluralism, 56, 66
Plurality of causes, 241
Point, 68
Positivism, 5, 89, 127, 199, 202
Possibility, 18, 45
Postulate, 237, 241, 265
Potency, 52
Potential|potentiality, 41, 42, 199, 202-3
Prābhākara, 140
Practical Reason, 54, 78, 186, 191
Practical success, 72

"Practice", 3, 79
Pragmatic, 31, 201
Pragmatism|Pragmatist, 2, 3, 6, 38, 41, 46, 77-8, 84-5, 134, 172, 205
Pragmatist Logic, 2
— Theory of Truth, 77-80
Predicate, 51-2, 131, 134, 143-6, 171, 180
Predication, 131-2, 134, 137, 143, 171
"Pre-established harmony", 104
Premise, 165, chaps. xii & xiii *passim*
Preperception, 104, 106
Price, 58, 63, 100, 106, 189
Primary affirmation, 139-41
— assertion, 32, 108
— memory, 114
— quality, 68
— recognition, 138-41
— substance, 51
Prime Mover, 56
Principle, 4
Principle of Indeterminacy, 67, 169, 178
Pringle-Pattison, 188
Probability, 172, 210, 217, 242
Probability waves, 67
Problem, 46, 147-8
Problematic judgment, 171-3, 177-8
Process, 130, 208
Projection, 96
Proof, 113, 264
Proposition, chap. ii *passim*, 36, 43, 182, 195, 219, 248
Propositional reference, 24-6, 32, 48, 50, 53, 57, 62, 72-3, 107-9, 115, 121-2, 131, 137-8, 141, 145, 157, 177, 194, 196, 216, 256, 262
Protagoras, 77
Protensity, 112
"Protocol sentences", 45
Proton, 67
Pseudo-concept, 89, 93, 140
Pseudo-statement, 14
Psychical, 41
Psycho-analysis, 105, 127
"Psychologic", 3
Psychologism, 3, 39, 80
"Psychologist's fallacy", 110, 130
Psychological|psychology, 1, 2, 4, 5, 20, 87, 103-4, 123, 127, 130, 137, 176, 201, 206, 211, ,216, 46, 48-9, 62, 71, 82, 131, 158, 219, 261, 264
Psycho-physical, 105
Psychosis, 130
"Pure concepts", 54-5
"Pure forms", 265
"Pure negation", 139
Purpose, 13, 36, 42, 62, 77
Purposivism, 77

Quality, 8, 31, 51, 53-4, 59, 62-3, 65, 85, 88, 131, 223-5
Quantification, 90
Quantity, 51, 54, 62, 67, 161, 223-5
Quantum Theory, 65, 67, 237, 246
Quaternio terminorum, 222
Question, 22-3, 25, 138, 172

Radhakrishnan, 78
Ratio cognoscendi, 96
Ratio essendi, 96
Rationalism|Rationalist, 54, 160, 186, 212, 262
Raymond, 189
Real proposition, 179-80
Realisation, 189
Realism|Realist, 5, 6, 56, 63, 103, 120, 122, 187-8, 199
Reality, 1, 2, 9, 10, 14, 17, 21-3, 25-7, 35, 40-1, 43, 47, 52-61, 64, 69, 71-2, 75, 77, 80, 85, 78, 89, 111, 147, 156, 158, 185, 188-9
Reason, 54-5, 191, 202
Reasoning, 13, 191, 260, 264
Receptiveness, 21
Recognition, 12, 58, 62, 66, 94, 114-5, 121, 123, 207
Recurrent, 95
Reduction, 170
Reference, 8, 9, 11, 15, 19, 20, 23, 25-7, 33-5, 47, 62, 70, 75, 96-7, 110, 121-2, 124, 128, 130, 136, 139, 141, 148, 153, 160, 163, 170, 193, 195, 201, 216-7, 223-4, 256-7, 262-3, 265
Referent, 18, 20, 26-7, 33, 43, 49, 62, 67, 73, 75, 97, 110, 112, 193, 195-6, 208, 217, 224, 263
Referential Positivism, 5

Reflex, 198
Reflexion, 25, 60, 70, 123
"Refutation of Idealism", 59
Regular succession, 242
Regularity, 68
Regulative principle, 200
Reid, 81-2, 84, 117-8
Relation, 19, 33-4, 43, 51, 54, 62-3, 66, 88, 143, 175, 196, 223-4, 230-1, 244
Relation—
  dyadic, 19, 43
  "internal", 213-4
  monadic, 19
  polyadic, 19
  syntactical, 11, 37, 80
Relativism, 188
Relativity, 192
Relativity Theory, 56, 67, 228, 244
Religion, 189
Remembrance, 114-6, 118-9, 215
Reminiscence, 115, 118-9
Remorse, 201
Representation, 15, 17, 72, 87, 101, 119
Representationism, 15, 52, 55, 63, 74, 81, 87, 96, 99, 100-4, 116-7, 119, 121-2, 129
Reproduction, 104, 116, 118
Resemblance, 38, 48, 64, 94, 107, 244
Resolution, 13
Result, 17
Retentiveness, 118
Retrospection, 125, 130
Richards, 14, 36, 38-9
Ross, 51-2
Royce, 41
Russell, 4, 5, 12, 16, 21, 38-9, 68, 85, 91, 100, 112, 131, 132, 138, 140, 197, 209-15, 218-9, 236, 241-2

Sānkhya, 82, 140
Santayana, 192
Sapir, 12
Sartre, 69
Satisfaction 198-9
Scepticism, 37, 188
Schelling, 189
Schiller, 3, 77, 79, 133
Schilpp, 3, 102
Scholastic, 246
Schopenhauer, 191-2
Science, 16, 51, 68, 112, 130, 259
"Scientific use of language", 14-5
Secondary judgment, 32, 139, 195, 207
  — quality, 68
  — substance, 51
Selective subjectivism, 68
Self, 20, 35, 57, 88, 126-7, 186, 201, 203
Self-awareness, 123
Self-cognition, 123
Self-consciousness, 125-7, 130
Self-consistency, 150, 211, 235, 249, 255
Self-contradiction, 150, 202, 246, 260
Self-development, 212, 214
Self-evident, 71, 81-2, 113, 264
Self-existence, 7, 53, 60, 127
Self-identification, 42, 70, 205
Self-projection, 60, 69
Self-subsistence, 8, 213
Self-transcendence, 11
Semantics, 1
Sensation, 37-8, 57-8, 98, 117, 122, 198
Sensationistic intuitionism, 186-7
Sense-apprehension, 96, 104
Sense-datum|sensum, 58-9, 63, 88, 91, 100, 103, 106, 117, 122, 202
"Sense-field", 100
"Sense-history", 100
Sense organ, 59, 87, 114
Sensibility, 55, 91, 181
Sensibilium, 91, 202
Sentence, chap. i *passim*, 26, 29, 33, 44-5, 49, 50, 86, 195-6, 208, 213, 216
Sentence—
  exclamatory, 18
  imperative, 17-8
  indicative, 17-9, 29, 39, 44, 48-9, 73
  interrogative, 19
  optative, 19
  subjunctive, 19
Sentiment, 18, 191
"Sequential", 151, 168
Shaftesbury, 202
Shape, 8, 208

Shelley, 189-90, 205-6
Sign, 39, 40, 47, 195
Significance, 8, 208
"Significant whole", 74
Signification, 69, 179
Sigwart, 136, 138, 255
"Silly negation", 139
Similarity, 64, 94, 215-6, 244
Simple apprehension, 53, 83, 92, 98
  — assertion, chap. ix *passim*, 167
  — enumeration, 162-3
  — inference, chap. xiii *passim*
Singular, 113, 161
Singularism, 66
Smart, 252
Smith, 55, 61
Solidity, 67
Solipsist, 103
"Some", 163-4
"Sophistication", 21, 125
Space, 54, 56, 85, 89, 100, 106, 225-8, 236, 244, 256
Space-time, 56, 59, 64, 67-8, 106, 245
Spatialisation, 39, 59, 105
Spatio-temporal, 65, 68, 80, 90, 202, 211, 227, 236, 244-5, 247
"Specious present", 114
Speech, 8, 9, 16, 134
Spencer, 199
Spinoza, 53, 56, 66, 236, 246
Spreadoutness, 62
State, 51, 128-9
State law, 259
Standard, 201, 207
Statement, 14, 113, 147
Statistics, 210
Stebbing, Miss, 68, 153, 262, 264
Stimulation|stimulus, 20, 104, 114, 122
Stout, 21, 92, 101, 104, 107, 116, 118-9, 125
Stream of consciousness, 11, 93
Structural, 145, 149, 155, 209, 215, 220
"Structural identity", 47
"Structure", 68
Sub-conscious, 105
Subject, 20, 27, 34, 51, 57, 71, 89, 131-4, 143-6, 171, 180, 196, 255
Subjective, 60, 62, 67-9, 71, 97, 215
Subjectivism|subjectivist, 3, 5, 37, 52, 55, 59, 67, 80, 87, 94, 126, 184, 186-8, 190-2, 202
Subject-object relation, 63
Subsistence|subsistent, 33, 60, 148, 191, 262
Subsistential judgment, 248
Substance, 27, 51, 53, 65, 77, 93, 127, 134, 143, 187, 217, 246, 255
Substantive, 28, 61, 185
"Sub-vocal speech", 10, 13
Success, 77
Succession, 65, 244
"Such", 51, 53
Suggestion, 23, 25, 31, 47, 59, 138, 141, 205-6
Summary induction, 164
Summation, 152, 164, 169
Supplementation 104
Supposal|supposition, 22-3, 25, 71, 138, 147, 149, 169-70, 172, 177
"Suppressed inference", 149, 151, 220
Syllogism, 164-6, 218, 230, 235, 239
Symbol, 4, 7, 8, 15, 26, 37, 39, 40, 44, 46-50, 53, 72, 137
Symbolic Logic, 261
  — reference, 37, 74
Synonym, 37
Syntactical relation, 11, 37, 80
Syntax, 16, 48
Synthesis, 54, 104, 183-4, 216-7, 221-2
Synthetic judgment, 174, 179-81, 235, 249
System, 213, 264-5

Tagore, 190
"Taken", 87, 94, 96, 99, 126, 184
Taste, 200
Tautology, 150, 160, 181, 254, 256
Teleological, 13-4, 42
Telepathy, 7
Test of truth, 82
"That", 66
Theoretical Reason, 54
Theory, 5
Theory of Inquiry, 3
Theory of Knowledge, 4, 5, 10, 56, 95, 135, 181
Theory of Relativity, *vide* Relativity Theory
"Therefore", 213, 218
Thing, 58-9, 87, 93
"Thinghood", 93

Thing-in-itself, 5, 33, 54-5, 57-8, 60, 69, 88, 103, 127, 193, 202
Thinking, 3, 59, 130, 254, 260-1, 264
"This", 51, 53
Thought, 2, 3, 10, 24, 27, 29, 37, 41-2, 47, 52, 57, 59, 83, 119, 145, 254-61, 265
Threshold of consciousness, 22
Time, 34, 54, 56, 85, 227-8, 236, 244, 255-6
Timeless, 34
Titchener, 37-8
Tolstoy, 189, 191
Totality, 161
Traditional Logic, 2, 4, 28, 51, 133-4, 143, 171, 230, 235, 239, 253
Tranquillity, 205
Transcendent, 60, 78, 89, 180, 187, 199
Transcendental, 34, 57, 246
Transcendental deduction, 55, 61
— self, 88
Transcendentalist, 127
Transformation, 45
Transitive, 81, 84
Translation, 36-7, 45, 232
Transvaluation, 187, 203
Tree of Porphyry, 93
Truism, 85
Truth, 1, 3, 4, 31, 33-5, 52, 57, chap. v *passim*, 87, 105, 110-3, 139, 149, 151, 153, 183, 185, 189, 193, 196, 200, 207, 217, 235, 250, 255, 260
Truth-claim, 32, 156, 194-5
Truth-value, 14, 29, 30, 43, 138, 255, 262-3

Ueberweg, 155
Ultimate Reality, 75, 188
— subject, 53
— value, 185
Unambiguity, 255-6
Uncertainty, 85, 172, 177-8
Uncertified, 173
Unconditionality, 241
Unconscious, 105
Uncontradicted experience, 169
Understanding, 46, 54-5, 78, 91, 181, 188
Uniformity of Nature, 214, 241, 259
Unique, 247
Unitary, 164
Universal, 12, 27, 39-41, 51, 53, 94-5, 100, 161, 186, 218, 221, 236, 244-5, 248
Universal judgment, 146
Universe, 3, 16, 35, 67-8, 85, 88, 97, 147, 242
Universe of discourse, 135
Unknowable, 55, 58, 69, 88
Unthinkable, 55
Untruth, 6
Urban, 10, 17, 135
Use, 77
Ushenko, 29, 30
Utilitarianism, 190
Utility, 3, 36, 77, 79, 81
Utterance, 5, 10, 17-8, 80

Vacuum, 106
Validity, 3, 5, 185, 196-7, 213-4, 217-8, 228, 250, 260
Valuational judgment, *vide* Evaluative judgment
Value, 1, 2, 31-2, 36, 85, chap. xi *passim*
Value-consciousness, 197, 199, 200, 207
Value-judgment, *vide* Evaluative judgment
Vedāntist, 140
Velocity, 246
Verae causae, 202
Verbal proposition, 179-80
— utterance, 37, 80
Verbalism|verbalist, 6, 37, 253
Verdict, 193
Veridical, 103, 109
Verifiability, 46, 69
Verification, 3, 5, 34, 65, 69, 70, 72, 79, 82, 84, 110, 114, 149, 151, 163, 175, 180, 200, 235-6
Viscera, 18
Vision, 15, 106, 206, 214
Volition|voluntary, 198, 201

Ward, 104
Warrantability, 210

Warranted assertibility, 3, 78-9
Watson, 10
"What", 66
Whitehead, 15
Whole, 66, 70
"Whole-ing", 88
"Why", 237
Will, 78
Wilson, 147-8
Windelband, 134
Wittgenstein, 8, 10, 47
Wood, 102
Woodworth, 5
Word, 7-9, 13, 38, 45, 49, 50, 80, 86, 180, 256
Wordsworth, 42, 205-6